THE

AMERICAN JOURNAL

OF THE

MEDICAL SCIENCES.

No. XLVII.—May, 1839. 1

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OF THE

MEDICAL SCIENCES.

VOL. XXIV.

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TO READERS AND CORRESPONDENTS.

The interesting "Gleanings" of Prof. MOTT, reached us just as this sheet was preparing for the press. They shall have a place in our next No.

We have been unable, from want of space, to notice several interesting works to which we are desirous of calling attention; among these we may specify Churchill on the diseases of females, Wardrop on the diseases of the heart, Dr. Dunnel's annual report of the interments in the city and county of New York, for the year 1838, and Pancoast's edition of Wistar's Anatomy. Each of these shall receive early attention. We have also several other works on our table, which reached us too late for notice for the present No.

The following works have been received:—

A Treatise on the Diseases of the Chest, and on Mediate Auscultation. By R. T. H. LAENNEC, M. D. Translated from the third French edition with copious notes, a sketch of the author's life, and an extensive Bibliography of the different diseases. By JOHN FORBES, M. D. F. R. S. &c. To which are added the notes of Professor ANDRAL, contained in the fourth and latest French edition, translated and accompanied with Observations on Cerebral Auscultation by JOHN D. FISHER, M. D., Fellow of the Massachusetts Medical Society, with plates, New York: 1838. (From Dr. Fisher.)

A system of Anatomy for the use of Students of Medicine. By CASPAR WISTAR, M. D., late Professor of Anatomy in the University of Pennsylvania. With notes and additions, by Wm. HORNER, M. D. Professor of Anatomy in the University of Pennsylvania. Seventh edition, entirely remodelled and illustrated by numerous engravings. By J. PANCOAST, M. D., Lecturer on Anatomy and Surgery, and one of the surgeons of the Philadelphia Hospital, &c. 2 vols. 8vo: 1839. (From Dr. Pancoast.)

An Inquiry into the Influence of Physical causes upon the Moral Faculty. Delivered before a meeting of the American Philosophical Society, February 27, 1786. By BENJAMIN RUSH. With an introductory notice by GEORGE COMBE, Esq., of Edinburgh. Philadelphia: 1839. (From G. Combe, Esq.)

The Nature and Treatment of the Diseases of the Heart; with some views on the Physiology of the circulation. By JAMES WARDROP, M. D., Surgeon to his late Majesty, &c. London: 1837. (From the author.)

Outlines of the Principal Diseases of Females. Chiefly for the use of Students. By FLEETWOOD CHURCHILL, M. D., Licentiate of the King and Queen's College of Physicians in Ireland, Physician to the Western Lying-in Hospital, &c. &c. Dublin: 1838. (From the author.)

Practical Surgery: with one hundred and thirty engravings on wood. By ROBERT LISTON, surgeon. With notes and additional illustrations, by GEORGE W. NORRIS, M. D., one of the surgeons to the Pennsylvania Hospital. Philadelphia: 1838. (From Dr. Norris.)

Outlines of the Institutes of Medicine: founded on the Philosophy of the human economy, in health and disease. In three parts. Should we build facts upon facts until our hill reached the heavens, they would tumble to pieces, unless they were cemented by principles.—Rush. By JOSEPH A. GALLUP, M. D. Author of Sketches of Epidemic Diseases of Vermont, late Professor of Theory and Practice in the Vermont Academy of Medicine, &c. &c. Boston: 1839. 2 vols. 8vo. (From the Author.)

Catalogue of the Officers and Students of the Medical Institute of the city of Louisville: January, 1839. (From Professor C. W. Short.)

Introductory Lecture delivered by H. WILLIS BAXLEY, M. D., Professor of Anatomy and Physiology in the University of Maryland. November 2, 1837, Baltimore, 1839. (From the author.)

Annual Announcement of the Medical Department of Transylvania University; containing the circular for the present year, the catalogue of pupils of session 1838-9, and the list of graduates at the late commencement. Lexington: 1839. (From Professor T. D. Mitchell.)

On the methods of acquiring knowledge. An introductory Lecture to the course of the Institutes of Medicine, for the session 1838-9; delivered in the University of Pennsylvania, November 6, 1838. By SAMUEL JACKSON, M. D. Philadelphia, 1838. (From the author.)

Transactions of the Medical Society of the State of New York. Albany: 1839. (From the society.)

A Lecture on Loxarthrus or Club Foot. By THOMAS D. MUTTER, M. D., Lecturer on Surgery, Fellow of the College of Physicians, &c. Philadelphia, 1839. (From the Author.)

Annual Report of the Interments in the city and county of New York, for the year 1838, with accompanying remarks. Presented by HENRY G. DUNNEL, City Inspector. New York, 1839. (From the author.)

Monograph of the ligneous plants indigenous to Ohio. By JOHN L. RIDDELL, M. D., Professor of Chemistry and Pharmacy in the Medical College of Louisiana. (From the author.)

Opinion of the Court of Appeals of Maryland, in the case of the University of Maryland, delivered by BUCHANAN, Chief Justice. Baltimore, 1839.

The Annual Address to the candidates for degrees and licenses in the Medical Institution of Yale College, February 26th, 1839. By THOMAS MINER, M. D., Member of the Board of Examination, and late President of the Connecticut Medical Society. Published at the request of the Class. New Haven, 1839. (From the author.)

An Address delivered to the Students of the Louisville Medical Institute in the presence of the citizens of the place, at the commencement of the second session of the Institute, November 13th, 1838. By Joshua B. Flint, M. D., Professor of Surgery, Louisville, 1838. (From the Author.)

Archives Générales de Médecine, September, October, November and December, 1838. (In exchange.)

Revue Médicale Française et étrangère, August, September, October, November, December, 1838. (In exchange.)

Journal de Médecine et de Chirurgie Pratiques, September, October, November, December, 1838. (In exchange.)

Bulletin Général Thérapeutique Médicale et Chirurgicale, September, October, November and December, 1838. (In exchange.)

Gazette Médicale de Paris, August, September, October, November and December, 1838. (In exchange.)

Journal des Connaissances Medico-Chirurgicales, September, October, November and December, 1838. (In exchange.)

Journal des Connaissances Medicales, September, October, November and December, 1838. (In exchange.)

La Lancette Française, August, September, October, November and December, 1838. (In exchange.)

Journal de Pharmacie, September, October, November and December, 1838. (In exchange.)

Zeitschrift für die gesammte Medicin mit besonderer Rücksicht auf Hospitalpraxis und auslandische Literatur. Nov. 1838. (In exchange.)

The London Medical Gazette, November and December, 1838, and January, 1839. (In exchange.)

The British and Foreign Medical Review or Quarterly Journal of Practical Medicine and Surgery, January, 1839. (In exchange.)

Edinburgh Medical and Surgical Journal for January, 1839. (In exchange.)

The Medico-Chirurgical Review, for January, 1839. (In exchange.)

The Medical Examiner for February, March and April, 1839. (In exchange.)

The American Medical Library and Intelligencer, for February, March and April, 1839. (In exchange.)

The Boston Medical and Surgical Journal for February, March and April, 1839. (In exchange.)

The Southern Medical and Surgical Journal, February, March and April, 1839. (In exchange.)

The Select Medical Library and Eclectic Journal of Medicine, February, March and April, 1839. (In exchange.)

The Transylvania Journal of Medicine and the Associate Sciences, for April, May and June, 1838. (In exchange.)

The Western Journal of the Medical and Physical Sciences for May, June and July, 1838. (In exchange.)

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Die natürlichen Processe bei der Heilung durchschlungener Blutgefässe mit besonderer Rücksicht auf den Thrombus. Aus einer grossen reihe Von Versuchen an Thieren abgeleitet. Von Dr. B. Stilling, &c. 8vo. pp. 304, Eisenach, 1834.

Geschichte einer amputation des oberschenkels, wobei die durchschlingung der art. fem., art. prof. fem. und der vena fem. in anwendung gezogen wurde. Von Dr. B. Stilling, &c. 8vo. pp. 32, Hanover, 1837. - 172

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XVIII. A Treatise on the Diseases of the Chest, and on Mediate Auscultation. By R. T. H. Laennec, M. D., Regius Professor of Medicine in the College of France, &c. &c. &c., translated from the third French edition, with copious notes, a sketch of the author's life, and an extensive Bibliography of the different diseases. By John Forbes, M. D. F. R. S. &c. &c. To which are added the notes of Professor Andral, contained in the fourth and latest French edition, translated and accompanied

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ERRATA.

It is stated in the review of Professor Jackson's Report on Typhoid fever, in our No. for November last, p. 132, that there is evidently some mistake in the calculations. The writer of the article was led into this error from a misapprehension of the manner in which the tables of the author were drawn out. These tables are made to show how frequently each symptom considered separately, presented itself; but, as in some of the cases, two or more symptoms occurred together, without it being stated how often this happened, one who was not aware of this fact, might readily suppose the number of cases to have been greater than it really was, and thus infer an error in the calculations.

We may notice at this time a typographical error at p. 134, next line to bottom, in which none is placed for one. It should read, in one there was perforation of the intestine.

These corrections should have been made in our preceding No., and we owe many apologies to our estimable and respected correspondent for the omission.

TO READERS AND CORRESPONDENTS.

The following works have been received:—

Valedictory Address to the Students in Medicine of the College of Physicians and surgeons of the University of New York. Delivered February 28th, 1839. By JOHN B. BECK, M. D. Professor of Materia Medica and Medical Jurisprudence. New York, published by the students, 1839. (From the author.)

Catalogue of the officers and students of the University of Virginia. Session of 1838-39. Richmond, 1839. (From Professor GRIFFITH.)

A Catalogue of the Officers and Students in the Medical Department of the Cincinnati College, for 1838-9. Containing the Catalogue of Graduates in Medicine for 1839. Cincinnati: 1839.

The Art of Prolonging life briefly considered. A Lecture delivered before the Athenian Institute, January, 1839. By J. PANCOAST, M. D. (From the author.)

Medical Lexicon. A new dictionary of Medical Science, containing a concise account of the various subjects and terms; with a vocabulary of synonymes in different languages, and formulæ for various officinal preparations, &c., second edition, with numerous modifications and additions. By ROBLEY DUNGLISON, M. D., M. A. P. S., &c. Philadelphia: 1839. Lea and Blanchard. (From the publishers.)

Isagoge in Doctrinam Morborum Chronicorum. Auctore, G. C. B. SURINGAR, M. D., &c., &c. Amstelodamæ: 1837-8, 2 vols. (From Dr. Oppenheim.)

Prospetto Statistico, Clinico, Psichiartrico, con classificazione dei recoverati nel Regio Manecomio el Torino de Dottore, C. BERTOLINI. Torino: 1832. (From Dr. Oppenheim.)

Saggio di Statistico del Regio Manicomio di Torino dal 1 di Gen., 1831, al 31 dec. 1836. Del dottore G. S. BONACOSSA. Torino: 1837. (From Dr. Oppenheim.)

Catalogue of the Officers and Students of the Medical Department of Hampden Sidney College, in Richmond, Virginia. Session 1838–9. Richmond, 1839. (From Professor WARNER.)

Address delivered to the Graduates of the Philadelphia College of Pharmacy, April 23d 1839. By JOSEPH CARSON, M. D., Professor of Materia Medica and Pharmacy. Philadelphia: 1839. (From the author.)

Minutes of the Medical Society of Tennessee, at the tenth annual meeting, held in Nashville, May, 1839. Columbia: 1839.

Outlines of Physiology; with an Appendix on Phrenology. By P. M. ROGET, M. D., F. R. S. &c., &c. First American Edition, revised with numerous notes. Philadelphia: Lea and Blanchard, 1839. (From the Publishers.)

The first Report of the Hospital at Mocao under the auspices of the Medical Missionary Society of China. From the quarterly term beginning 5th July, and ending 1st of October, 1838. By Rev. PETER PARKER, M. D. Canton, China: 1838. (From Dr. William B. Diver.)

Twenty-second Annual Report on the state of the Asylum for the relief of Persons deprived of their Reason. Published by direction of the Contributors. Philadelphia: 1839. (From Dr. Charles Evans.)

Journal of the Proceedings of the Medical Convention of Ohio, at its third session began and held in the city of Cleveland on the 14th and 15th days of May, 1839. Cleveland: 1839. (From Dr. G. Mendenhall, Recording Secretary.)

Proceedings of the President and Fellows of the Connecticut Medical Society in Convention, May, 1839. With a list of the Members of the Society. Hartford: 1839. (From Dr. Welch, Secretary.)

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ERRATA.

Page 268, line 15 from top, for "subject," read "*subjected.*"
" 281, last line, for "1833," read "1823."
" 282, line 22 from top, for "is not to be," read "*cannot be.*"
" 287, " 16 " for "renewed," read "*removed.*"
" 287, " 22 " for "set," read "*sat.*"

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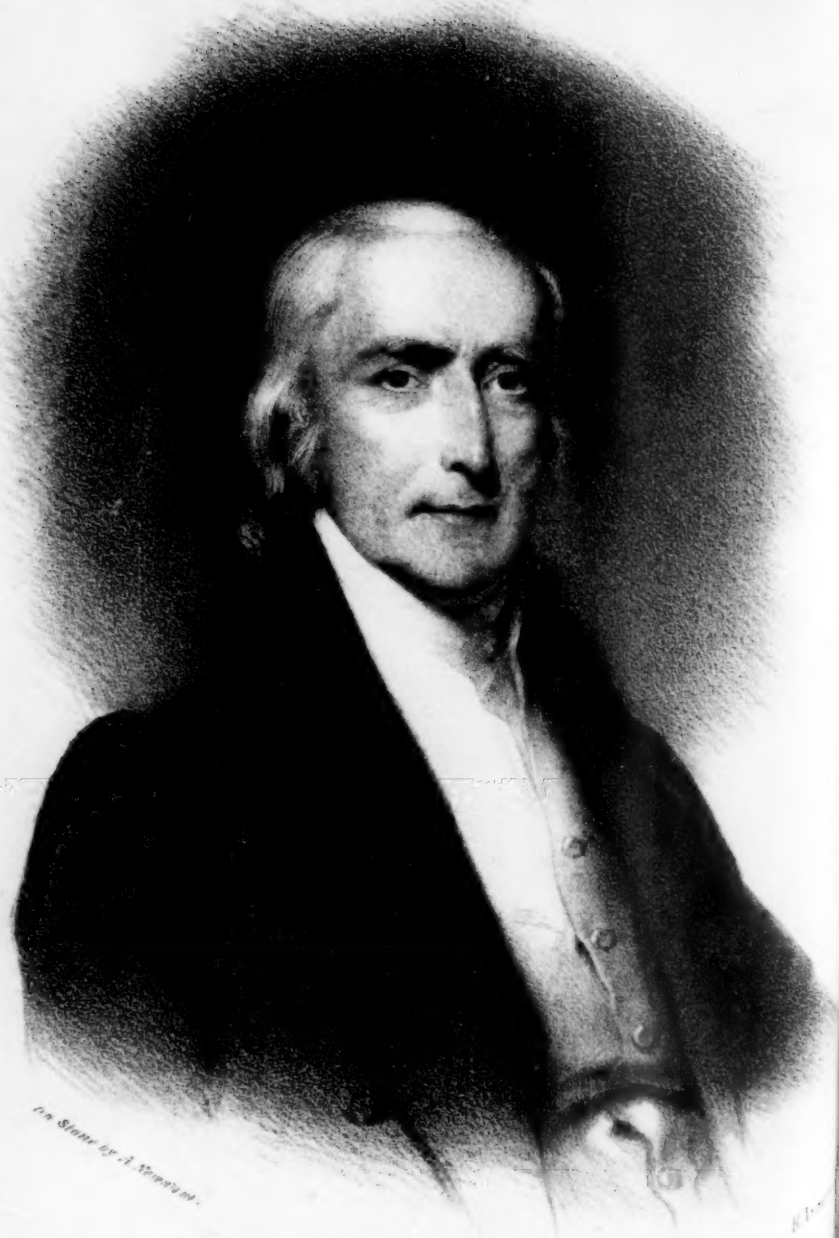

PHILIP SYNG PHYSICK, M.D.

P. S. Duval, Lith. Phila.

THE

AMERICAN JOURNAL

OF THE

MEDICAL SCIENCES.

ART. I. *Account of the Asylum for the Relief of persons deprived of the use of their Reason, near Frankford, Pennsylvania, with the Statistics of the Institution from its foundation to the 31st 12th month,* 1838. By CHARLES EVANS, M. D., Attending Physician to the Asylum.

OF all the maladies to which the human system is obnoxious, those which affect the manifestations of mind have undoubtedly the strongest claim upon our sympathy and care. Notwithstanding this is now generally acknowledged, yet it is comparatively of but recent time, that the public sympathy has been effectively demonstrated, by providing adequate and appropriate means for the cure of persons afflicted with those diseases; or for alleviating the distress and securing the comfort of such as may be beyond the reach of remedial aid. All experience has proved, that in the great majority of cases, separation from friends, and seclusion from society, are indispensable to the recovery of the insane; besides which the peace of their families, and the well being of society, demand their restraint; hence, places for their reception have been common in all Christian countries: but until the present century, these institutions appear to have been conducted, mainly, with a view to the security of their wretched inmates; provision for their medical and moral treatment, being altogether unheeded, or made of very secondary consideration. Left to the conduct of the ignorant, the selfish, and the unfeeling, whose principal aim was to escape trouble and secure their own emolument, the mad-houses (as the English termed them,) embraced more heart-sickening degradation, and more unheeded suffering, than could be found in any other receptacles of human misery. The real state of the

houses for the reception and treatment of the insane, in Great Britain was first disclosed to the public by the report of a committee of the House of Commons, published in 1816. Credulity itself is staggered at the recital, of the before unheard of cruelty practised, and misery endured, within the walls of most of those institutions, many of which, the public had been accustomed to regard with pride, as monuments of their liberality and benevolence. There were, however, a few honourable exceptions, and conspicuous among these was the Retreat near York, which was projected by the Society of Friends as early as 1792, the same year in which Pinel commenced his celebrated reform in the Bicêtre at Paris. The plan of that Institution originated with a few individuals in the society, who, having accidentally become acquainted with the manner in which the insane were habitually treated, resolved to rescue such of their fellow professors as suffered under that pre-eminent affliction, from the misery which surrounded them, and to place them in a situation where they would be subjected to a totally different course of management from that pursued in any of the existing establishments. Accordingly grounds were purchased, buildings erected, and in 1796 a considerable number of patients received, and a course of treatment carried out, such as had never before been practised towards the insane, and which gave a rational ground to hope that their cure would be effected, or, at all events, their comfort and welfare secured. The Retreat was soon resorted to by others than Friends, and in a short time the success obtained there, demonstrated beyond contradiction, the superior efficacy, both in respect of cure and security, of a mild and humane system of treatment in all cases of mental disorder. To the philanthropic members of that religious society, who founded and conducted the Retreat, belongs (together with Pinel, who made some reformation in the horrible abuses of one of the Paris hospitals,) the credit, whatever it may be, of changing the course of treatment long pursued toward those deprived of the use of their reason, and restoring to them that sympathetic kindness and control which their affliction peculiarly demands. The example thus set was slow in extending its influence, as is evident from the state of the institutions throughout Great Britain, when the investigation before alluded to, took place. That it had, however, a decided effect in awakening the public mind to the importance of a reformation in the insane hospitals, is shown by several parts of the evidence given before the committee of the House of Commons. Dr. Weir, Inspector of Naval Hospitals, states in his testimony, that "the object of almost every insane institution, whether of a public or private description, had been the *security* of those pitiable objects; comfort, medical and moral treatment being in great measure overlooked; happily, however, for that class of society, the Quakers' Retreat at York, has at last convinced the world, how much may be done towards the amelioration of their condition."

From the time the subject was thus brought before the public, the

arrangement and economy of asylums for the insane have become the subjects of attentive study and experiment, until, under the influence of an enlightened philanthropy, they have been radically changed, so that within the walls of every such institution properly conducted, are congregated, not only the various resources of medical science and art, and every thing calculated to divert the mind from its erroneous associations, and give new vigour to its powers; but also all that needful care, decided control, and well-directed kindness, which, owing to perverted feelings, the sufferer rejects, or cannot appreciate while within his own domestic circle, but which are generally accepted with thankfulness from the hands of a stranger, and contribute powerfully to lessen his distress and restore his health.

In 1812, motives, similar to those which actuated the founders of the Retreat in England, induced a large number of the members of the same society in Pennsylvania, to attempt the establishment of a similar institution. They associated themselves together under the title of "The Contributors to the Asylum for the Relief of Persons deprived of the use of their Reason," for the purpose (as expressed in their constitution,) of providing for the suitable accommodation of that afflicted class of our (their) fellow members, and professors with us, (them) who are or may be deprived of the use of their reason; as well as the relief of their families and friends." Subscriptions were opened, and in the course of a comparatively short time, a sufficient amount of funds having been collected, the institution which I am about to describe was built, and in 1817 opened for the reception of patients. At that time there was no asylum in this country which could serve as a model for an institution of the kind, those existing only answering to show how entirely inappropriate for the accommodation of the insane were the plans upon which they were constructed.

The Asylum for the Relief of Persons deprived of the use of their Reason, is situated in a healthy and retired part of Oxford township, distant about five miles north from Philadelphia, and one mile westward from Frankford. The whole building, which faces the north, is three hundred and twenty-two feet eight inches in length, being made up as follows:

The centre building is sixty feet square and three stories high above the basement; having two wings standing back about eighteen feet from its front, each one hundred feet long by twenty-four feet in depth, and two stories high; terminating in end buildings, which project four feet in advance of each wing, and are thirty-one feet four inches in front, by twenty-eight feet four inches in depth, and three stories high, exclusive of the basement. From each of these end buildings, a wing, running south, at right angles with the front, extends twenty-six feet eight inches in length, by twenty-two feet six inches in depth, and corresponding in height with the front wings.

The first story of the centre building contains four large rooms, divided from each other by halls running at right angles, one of which leads directly

through the building from north to south, and has the staircase in it, while the other opens into each wing. The two front rooms are appropriated, the one as a parlour for the superintendant, the other as an office and receiving room; the two in the rear, which respectively communicate with the wing of the side on which it is situated, are used as day-rooms for the patients. The second story of this building also contains two large rooms, situated with respect to the wings like the two below, and like them appropriated as day-rooms for the patients, besides which, there are four smaller rooms used by the family of the superintendant. There are four large, and three smaller rooms in the third story. One of the larger is occupied by the resident physician, and one as a sitting room for the convalescent female patients; the apothecary shop is also on this story. The wings each contain twenty good-sized rooms for patients, with a lobby or passage ten feet wide, running the whole length in front of them, at the extremity of which is the staircase. The end buildings, or lodges, as they are called, though united to the wings by the front wall, yet have their other walls entirely distinct; and in the lower story, are separated from the wings by a passage five feet wide, leading to the airing yards. Immediately over this passage, is the staircase leading from the second to the third story of the lodge. The rooms, both in the body of the lodges and their wings, are on the west side, with an entry six feet wide running in the rear of them on the east side; these entries are lighted by a window at each end, the wall on the side next the wings being unbroken and of extraordinary thickness. This separation of the two lodges from the rest of the building, is for the purpose of preventing the transmission of sound, and is found effectually to prevent the convalescent and quiet patients, who are kept in the wings, from being injured or annoyed by the noise of the violent and unruly ones, who are confined to the lodges. The first story of the lodges contains the bath rooms, a day room and two rooms for patients; the other rooms in the different stories, for the accommodation of the patients and their care-takers, are about twelve feet square.

In the centre building are the refectory, kitchen, ironing-room, and store-room; rooms for cooking, washing, &c., are adjoining under the wings, where also are the furnaces; furnaces are likewise located in the basement of the lodges. The whole building is covered with slate, and may be said to be nearly fire-proof. The basement story is paved with brick or flags, and arched, while the bottoms of the floors, and the joists in all parts of the house are thickly plastered with mortar, and then ceiled in the usual manner. In all parts of the building accessible to the patients, the window sash is of cast iron, and stationary. The lower one in each window is glazed, and outside of the upper is a wooden sash, glazed, which is hung, so as to be raised or lowered at pleasure. This arrangement, while it ensures security from escape, prevents the appearance of a place of confinement. The rooms in the centre building, and the patients' day rooms, ex-

cept those in the lodges, are warmed by means of stoves and grates. The wings and lodges have heated air, conducted from the furnaces before mentioned, as located in the basement story, into the lobbies and each room. The openings for the admission of the warm air into the rooms, are near the ceiling, and covered with wire-gauze, and the air can be stopped off at any time by means of dampers, situated so as to be regulated only by the attendants. Some of the rooms are provided with shutters for the exclusion of light when required, as also with wire protection to the glass.

Immediately under the roof in each wing is a large reservoir for water, supplied by means of a forcing-pump, from a never-failing stream, which issues forth a short distance from the house. From these reservoirs the water is conveyed to the bath rooms, and various other parts of the building.

The great extension of front in a building intended for the accommodation of but sixty-five patients, was deemed necessary in order to give to each, a separate, well proportioned room, having all the advantages to be derived from the free admission of light and air. Where the rooms are arranged on both sides of an entry of the usual width, these two essential requisites to health and cheerfulness cannot be commanded; added to which, the patients occupying opposite rooms are very liable to be mutually annoying, and in every respect (unless it be that of saving money), that mode of building for the insane is highly objectionable. On this account the plan adopted at the Friends' Asylum is worthy of imitation.

On one side of the wings are situated the chambers, ten feet square, each having a window, four feet six inches in height, by two feet ten inches in width. These rooms open on to the lobby, ten feet wide (as before mentioned), and directly opposite the door of each room is a window corresponding in size with that in the room. Over each door is fixed a cast iron sash, thirty-two by twenty inches in size, fitted with a moveable glazed sash, to be opened or shut at pleasure. By this arrangement, a full supply of light and a free circulation of air are secured, and the lobbies being comfortably warmed in cold weather, they afford pleasant places for walking and exercise of different kinds.

The kitchen and refectory, situated on the back part of the basement story of the centre building, open on to an area, which is fifteen feet wide opposite the centre building, and connects with one ten feet wide running the whole length of the western, and past that of the eastern wing. These areas are paved with brick, and have a well, fitted with a pump in them. The outside of the area is sodded, and rises regularly to a level with the garden and yards in the rear.

A neat vestibule, having its sides enclosed with Venetian shutters, sixteen feet in length, and corresponding in width with the large hall running through the ground floor of the centre building, is thrown over the widest part of the area, and leads directly into a flower-garden. In the rear of the

wings and lodges are the airing yards, each surrounded by walls ten feet in height, enclosing about half an acre of ground, for the use of such of each sex, as are not well enough to be allowed to walk, unattended, in the gardens and pleasure grounds. Each yard is subdivided by a board fence, cutting off about one-third of it; into which the idiotic and filthy patients are put, that they may not offend those who take more care of themselves. These yards are made pleasant with trees and summer-houses, the passages leading to them, as before mentioned, are between the wings and end-buildings. The entrances to the privies are from these yards: a door opening through the wall into them; there are no water-closets or other accommodation of the kind, within the buildings. Between these yards is a large flower-garden, and immediately beyond them the vegetable garden; the two containing about two acres of ground. At the termination of a gravel walk leading directly from the house through these two gardens, at the distance of about three hundred feet, is an ornamental house, surrounded on all sides by a piazza, fitted up as a library and reading room, and containing numerous specimens of natural history, maps, drawings, &c. &c., affording a most agreeable resort for such patients as may be considered by the physician well enough to enjoy it.

Over the spot where rises the stream that supplies the institution with water, at a short distance from the eastern end of the building, is erected a stone house, two stories in height, beside a basement; the lower story of which contains a forcing-pump so arranged, as to be easily worked by four of the patients; while the upper one is fitted up as a work-shop, with a turning lathe, tools, &c. Here many of the patients find interesting employment.

Connected with the various buildings described, is a farm of sixty-one acres, the greater part of which is under cultivation, and by giving the patients the opportunity for various agreeable and active out-door employments, affords the most powerful means for their restoration to health and reason. The woodlands cover about eighteen acres of ground, and are made up principally of the chestnut, beach and oak, affording a deep and delightful solitude and shade. A broad serpentine walk, more than a mile in length, winds throughout them, and a large summer-house and seats in various situations, are provided for the accommodation of the patients. Near the entrance to the woods, and enclosing a small part of them, is a park containing some fine deer.

Experience having proved that the comfort and cure of the insane are materially affected by the construction of the building in which they are placed, numerous plans have been suggested and acted upon, each of which has its admirers. All however who have had any practical knowledge of the treatment of those labouring under the disease, and their liability to be acted upon by the objects which surround them, unite in the sentiment, that that plan will prove the best, which, with equal conveniences,

combines the most means for introducing well-adapted employment and exercise, with the best arrangement for an extensive classification which can be kept permanently distinct.

Where the conveniences for classification are wanting, the most lamentable consequences must necessarily be witnessed even in institutions which may otherwise be conducted in the most unexceptionable manner. The employment of moral remedial means, is either absolutely precluded or rendered nugatory, when the patient upon the first dawn of reason feels the horror of being constantly surrounded by his pitiable associates, in all the different gradations of maniacal phrenzy and idiotic imbecility. These evils are guarded against at the Asylum by such a classification as is allowed of by the arrangement of the building.

The male patients occupy the eastern, and the female the western side of the house, both sides being arranged alike. The end buildings, or lodges, are occupied (as before mentioned), exclusively by the noisy and imbecile. Such of them as are fit to be out of their own rooms, have the liberty of a well-lighted and cheerful day room, situated in the southern extremity of the lower story of the wing of the lodge. Another class of patients occupy the lower story of the main wing, and have for their sitting room the large room described as forming part of the lower story of the centre building. The upper story of the wing is devoted to a third class who are more nearly well, and such as show no violence, and conduct themselves generally with propriety; they likewise have a day room for their peculiar accommodation, situated on the second story of the centre building, corresponding with the one below. All these patients, however, have access to the same yard, excepting that the worst are confined to a small part of the yard, which is boarded off, as before described.

For the accommodation of such of the females as are nearly restored, there is a large room in the third story of the centre building fitted up as a drawing room, where they can pursue their various amusements and employments entirely undisturbed by the other inmates of the house. There is no such room for the men, but the same class of patients among them, usually resort to the library, when circumstances will not admit, or they are not disposed to walk abroad. Such of the patients as do not eat in their own rooms, take their meals in the day rooms attached to the respective parts of the building where they are placed.

The government of the institution is lodged in the hands of a steward and matron, and resident physician, whose whole time is devoted to fulfilling the various duties of their respective stations. An attending physician visits the patients regularly twice a week, and as much oftener as the urgency of a case may require. A Board of twenty Managers, appointed yearly by the Association, have the supervision of the whole, and by a committee of three, inspect every part of the establishment once in each week.

In the treatment pursued at the Asylum, endeavours are used, so to combine medical and moral agents, that each shall render the other its most efficient aid, and jointly exert their remedial powers with the greatest certainty and effect. The therapeutical treatment of course varies according to the disease, which by affecting the brain, disturbs the manifestations of the mind. An accurate account of such treatment and its results, is constantly kept, and at some future day may afford data for ascertaining the relative advantages of the course pursued.

The moral means employed are various. Where it is found necessary, mild and gentle yet firm restraint is imposed, while the earliest gleams of returning reason are watched and cherished.

In the house, there are provided, games of different kinds; reading, writing, drawing, &c. The females sew, knit, quilt, &c. The library is furnished with books, periodicals, drawings, &c. Exercise in the open air is always promoted, and the patients encouraged, whenever the weather will permit, to engage in walking and riding. A carriage and horses are always in readiness, morning and evening, for their accommodation. In the lawn fronting the house, is located a circular rail-road about four hundred and fifty feet in circumference, with a pleasure-car on it, large enough to accommodate two, which is moved by hand. Riding upon this road is a very favourite amusement, and as it is attended with considerable exercise, it is found highly advantageous. Every exertion is made to interest the male patients in gardening, and in the various employments afforded in the cultivation of the farm. The diet of the patient of course varies according to the prescription of the physician, but in general it is plain and nutritious; fresh meat and a variety of vegetables being served up every day. Tea, coffee, and milk are all abundantly supplied.

The Asylum was opened for the admission of patients in the 5th month of 1817, and the following table exhibits the number, sex, and social state of those received yearly, up to the conclusion of 1838.

Year.	Whole number.	Men.	Women.	Single.	Married.	Widows.	Widowers	Year.	Whole number.	Men.	Women.	Single.	Married.	Widows.	Widowers
1817	18	9	9	13	5	0	0	1828	18	8	10	9	6	3	0
1818	21	13	8	9	9	2	1	1829	19	10	9	11	7	0	1
1819	17	10	7	10	5	0	2	1830	19	12	7	11	6	0	2
1820	23	13	10	14	8	1	0	1831	28	14	14	15	10	2	1
1821	22	13	9	15	5	2	0	1832	33	21	12	15	18	0	0
1822	20	6	14	13	5	2	0	1833	24	10	14	10	5	9	0
1823	18	10	8	10	7	1	0	1834	40	20	20	16	21	3	0
1824	18	10	8	10	5	2	1	1835	53	24	29	25	16	8	4
1825	28	13	15	12	9	5	2	1836	56	31	25	30	22	4	0
1826	26	15	11	12	8	4	2	1837	49	29	20	24	24	1	0
1827	21	10	11	10	8	3	0	1838	63	30	33	32	25	5	1

Whole number of admissions,			634
"	Men,	331	
"	Women,	303	
"	Single,	326	
"	Married,	234	
"	Widowers,	17	
"	Widows,	57	
Of these there were below 20 years of age,		28	
From 20 to 30 years,		187	
" 30 to 40 "		141	
" 40 to 50 "		126	
" 50 to 60 "		83	
" 60 to 70 "		48	
" 70 to 80 "		15	
" 80 to 90 "		5	
" 90 to 100 "		1	
			634

Of these 634 admissions, 127 were re-admissions granted to 81 individuals, and leaving 507 *persons* who have been under care.

The following table shows the duration of the disease at the time of admission of these 507 cases, and the results of treatment.

Duration.	Number.	Restored.	Much Imp.	Improved.	Stationary	Remaining	Died.
Less than 1 year,	261	152	26	27	18	4	34
From 1 to 2 years,	57	18	8	8	9	7	7
From 2 to 3 years,	36	17	3	3	4	5	4
From 3 to 5 years,	45	14	7	6	9	3	6
From 5 to 10 years,	47	13	7	3	8	11	5
Over 10 years,	61	0	7	5	22	13	14
Aggregate,	507	214	52	52	70	43	70

The proportion of cures in these cases is 42.21 in every hundred; but if we deduct the sixty-one cases, which at the time of admission had been deranged over ten years (and which included twenty who either were idiots, or had been imbecile from puberty), five cases complicated with epilepsy, and five which entered the institution with the paralysis peculiar to the insane, it leaves 436 cases, properly subject to treatment, and the cures are in the proportion of 49 in every hundred.

The per centage of cures in cases of less than a year's duration, taking

the whole twenty-two years is 58.23. Within the last six years, it has been 66. Nearly all of this class, discharged as "much improved," were almost well; but either pecuniary considerations, or the anxiety of their friends, occasioned their removal as soon as the disease was so far overcome as to render their perfect restoration probable; and in many instances information was afterwards received of their perfect recovery.

Of the seventy deaths, six occurred within a week of the time of their admission; nine within two weeks; seven within three weeks; and three within four weeks; these were mostly cases of acute inflammation of the brain, or its meninges, many of them being brought to the Asylum after all hope of relieving them at home was abandoned. Ten died between a month and a year's residence, and the remainder varying from one year to twenty.

Of the eighty-one patients re-admitted, there were discharged

Restored,	36
Much Improved,	4
Improved,	6
Stationary,	7
Died,	17
Remaining in the House,	11

Twenty-two returned a third time; of whom there were discharged—Restored, 14. Improved, 3. Stationary, 3. Died, 3—and one remains in the house. The other re-admissions, were of three individuals, who being liable to periodical insanity, have been accustomed to resort to the Asylum at the commencement of an attack, and to remain there until again restored to the use of their reason.

The following table exhibits the ages of the persons re-admitted, and the duration of the attack at the time of their first admission.

Age.	No.	Duration of Disease.	No.
Below 20 years,	2	Less than 1 year,	39
From 20—30	24	From 1 to 2 years,	7
From 30—40	21	From 2 to 3 years,	7
From 40—50	15	From 3 to 5 years,	7
From 50—60	10	From 5 to 10 years,	10
From 60—70	4	Above 10 years,	11
From 70—80	4		
From 80—90	1		
	81		81

Forty-one of the eighty-one had been originally discharged cured. The interval between the discharge and re-admission, was as follows.

Less than three months,	17	of whom	8	had been discharged cured.
Between three and six months,	9	of whom	2	do.
" six months and 1 year,	14	do.	11	do.
" 1 and 2 years, -	11	do.	8	do.
" 2 and 3 years, -	8	do.	2	do.
" 3 and 5 years, -	7	do.	4	do.
" 5 and 10 years, -	13	do.	5	do.
Over 10 years, - -	2	do.	1	do.

In some of the cases where this interval was so short as to be within three months, the second indisposition should no doubt be considered as a *relapse;* the organs not having been restored to perfect soundness after the original attack. But when we recollect how prone an organ which has once been diseased, and especially the brain, is, to resume the morbid action upon the occurrence of even a trivial cause, and also that that organ is liable to be affected not only by the causes which produce disease in other parts of the system, but likewise by the moral feelings and emotions of the mind; it is not to be wondered at, that a *recurrence* of disease should often be witnessed where persons are taken from the seclusion and regular habits of an Asylum, and ushered into the cares and excitement of society, as soon as healthy action is believed to have been restored. It is a difficult matter to convince a patient, or his friends, that prudence dictates his stay should be prolonged for a considerable time after he is apparently well, yet it cannot be doubted, that where such a course is pursued, the security of health is greatly increased.

As has been before observed, the Asylum was originally intended for the accommodation of those in membership or profession with the Society of Friends alone; and it continued thus exclusive, until the year 1834, when the contributors withdrew the restriction, and opened the institution for the benefit of all, with the proviso, that "in no case should a member or professor be excluded."

An accurate record of the place of nativity of each patient, and whether member or not, has been kept from the opening of the institution. By this it appears that the average number of the members of the General Meeting of Friends held annually in Philadelphia, which were under care (including idiots) during the first ten years in which the Asylum was opened, was thirty-one. That meeting includes the greater part of Pennsylvania, New Jersey and Delaware, and during those ten years was composed of between twenty and twenty-three thousand members; which, taking the medium, twenty-one thousand five hundred, which I believe is nearly correct, gives the proportion of one in every six hundred ninety-three and a half. In 1827, a large body seceded from that meeting, and its numbers are not now so accurately known; the ratio, however, has not increased.

Dr. Burroughs in his Commentaries, gives currency to the opinion that insanity occurs in a greater proportion among the members of the Society

of Friends, than the population generally, and assigns as a reason, their intermarriage with each other. This however would be entirely insufficient to account for the greater prevalence of the disease among them, if such were really the case, as in Great Britain, from whence he draws his data, there are nearly if not quite twenty-five thousand members; a number so large as to do away the probability of its being attributable to hereditary taint.

As the records of the two institutions for the insane, belonging to the Society, show that intemperance and want, so productive of mental derangement among others, cannot be assigned as the causes of it, in more than one case in every hundred and fifty occurring in the members of that society, and as they are known to be exempted, at least equally with others, from the sources of anxiety which disturb the social state; there would appear to be no other causes for the disproportion of diseases affecting the manifestations of mind, did it really exist, than either defective cerebral organization, or some peculiarity in their religious principles or practices. The former, no one will believe to be the case, and religious mania, as it is commonly but improperly called, is a form of the disorder which so rarely occurs among them, that as a community they may be said to be almost exempt from it.

The true reason of the apparent disparity in the proportional number of those afflicted with derangement in that society, and the community at large, lies in the very defective statistical information obtained of the latter relative to a disease which the ignorance and prejudices of the people lead them to conceal, and upon which incorrect data, a false estimate has heretofore been made. While in the Society of Friends, an accurate knowledge of all the members, liberal provision for the support of their poor, and institutions for its cure under their own care and government, bring nearly every case of idiocy or insanity which occurs among them, under notice.

ART. II. *Observations on the Nature and Treatment of Telangiectasis, or that morbid state of the Blood-vessels which gives rise to Nævus and Aneurism from Anastomosis.* By JOHN WATSON, M. D. Read before the New York Medical and Surgical Society, March 2d, 1839.

BY Telangiectasis, as the etymology of the word implies, is meant a dilated state of the extreme vessels. The term was first employed by Graefe, it has since been used by other writers of Germany, France, England and America; and as applied to a morbid condition of the blood-vessels, it is synonymous with the *nævus maternus* of the older writers, the *aneurism from anastomosis* of John Bell, the *tumeur variqueuse* or *fongueuse sanguine* of Boyer, the *tumeur érectile* of Dupuytren. I have adopted it

diversified to illustrate this point of pathology in all its bearings: I shall be

as more applicable to the cases about to be related, than either of these other terms; it covers the whole ground occupied by a natural group of maladies; it alludes to the actual state of the blood-vessels without referring to the cause, real or imaginary, that gives rise to this; it involves no theory as to whether these diseases be seated in the veins, the arteries, or both; it implies not that these diseases should in all cases exist at birth; and includes those that are deep-seated, as well as such as are visible or superficial.

Previous to the time of John Bell, the superficial forms of telangiectasis were denominated *nævi materni* or mothers' marks; and the French in allusion to a prevalent notion that these marks are caused by longings and mental impressions of the mother during gestation, have commonly termed them *envies*. But the deeper forms, or such as lie beneath the skin without involving it, before the time of Bell, had no specific name assigned to them; they were either described as anomalies, or confounded with a variety of other affections. Without attempting to enter at present upon the pathology of the tumours which Bell has described under the head of *aneurism from anastomosis*, it may here be well to remark that this name is defective and improper; first, in implying that the disease is seated solely in the arteries; and secondly, that the anastomoses of these vessels are more abundant than natural.

Mr. Wardrop has attempted to show that the vascular nævus is a disease entirely different from the aneurism by anastomosis, and finds fault with other writers for confounding them: yet none of the distinctive signs which he has specified, can be taken in any other light than as pointing to mere varieties of a disease common to both veins and arteries, frequently confined to the capillaries, but often extending to the other vessels.

Many of the French writers, and some even of our own country who have treated on this disease, have confounded it with that variety of carcinoma which Hey has described under the name of *fungus hematodes*. Some too, after having discovered this error, have committed another in retaining the name fungus hematodes in their account of the severer forms of the disease now under consideration. Even Dupuytren, who takes to himself the credit of having first illustrated the pathology of what he calls erectile tumours, has aided in perpetuating this confusion: for, under the head of his erectile tissue he includes aneurism from anastomosis as described by Bell, fungus hematodes as described by Hey and others, and a great variety of normal structures, both in men and other animals, which serve as the type of these two morbid growths. Bell indeed had previously pointed out the analogy in structure between the aneurism from anastomosis, and the normal tissues which Dupuytren has included with it; so that this latter writer has added nothing to our pathological knowledge by his labours on this subject.

The cases of telangiectasis requiring treatment that have fallen under my own observation, have been neither sufficiently numerous nor sufficiently

diversified to illustrate this point of pathology in all its bearings; I shall be obliged therefore in the course of my remarks to refer, for some of the severer forms of this disease, to the cases of other writers.

Case I.—In March, 1837, I saw with Dr. Stevens an infant ten months old, the daughter of Mr. K., who had for some months past been under treatment for a pulsating tumour on the right side of the face. The tumour was still increasing, and when first seen by Dr. Stevens (March 23d) it extended from just below the inner canthus of the eye, downwards and outwards on the cheek, presenting a circular elevation an inch and a quarter in diameter, lying mostly beneath the integuments, but raising the skin about three-fourths of an inch above its natural level.

The spot from which the present deformity originated, according to the mother's account, was not observed until some days after the child's birth, and when first noticed, it was a mere point of bright red colour under the inner corner of the right eye. When the child was three months old, the swelling was as broad as the mother's thumb nail, somewhat elevated, and throbbing. At this period the parents became alarmed, and consulted Dr. Mott, who applied caustic potassa to the tumour. This produced an eschar which separating, left an ulcerated surface which continued open about eight weeks, and during this time hemorrhage occurred occasionally, but never to any alarming extent. The ulcer finally cicatrized without changing the character of the tumour. It still continued to grow, and in November, 1836, its diameter at the base was about an inch.

The parents at this time applied to Dr. Bushe, and he pierced the tumour with three cautery needles heated to whiteness. This operation caused some hemorrhage at the time, and was followed by considerable inflammation, but not of sufficient severity to change the character of the tumour, or to arrest its growth. The operation was repeated in February, 1837. No hemorrhage followed the second application of the needles, the subsequent inflammation was slight, and the final result of this cauterization was as unsuccessful as the first.

From a drawing taken at Dr. Stevens's first visit, (I did not see it until after he had operated upon it,) the disease appears to have originally involved the skin, and to have afterwards extended to the subjacent tissues. It is represented of a light pink colour, interspersed with minute scarlet points, and with larger spots of a purplish hue.

Having learnt the nature of the previous operations, and dreading the deformity, not to speak of the danger, likely to result from any attempt at extirpating the tumour, Dr. Stevens, with the view of exciting inflammation sufficient to change the character of the vitiated growth, determined upon introducing a seton. A blunt-pointed needle, armed with several silk threads, was accordingly passed from the inner towards the outer edge, and completely under the swelling; the needle was withdrawn, and the silk threads left as a seton in the wound. No hemorrhage followed the operation; the threads were sufficiently numerous to fill the track of the needle, and thus to prevent bleeding.

On the fifth day after the operation, suppuration was established along the course of the seton; the inflammation gradually extended to the tumour, and continued to increase until April 15th, (twenty-three days after the insertion of the threads,) at which time the external character of the swelling was suddenly changed, and purulent matter was evidently forming within it. On the following day the existence of pus was still more manifest; the bright

red colour of the integuments had given place to a pale yellowish tinge; and the whole tumour had the appearance of a large phlegmon about to burst. The circumference, however was still red; and on the edge next the eye the original character of the swelling was still perceptible.

April 17th. An eschar formed in the centre, and the abscess broke, giving issue to a copious flow of dark brown consistent pus. This continued to ooze out in considerable quantity for several days afterwards.

April 25th. The seton was withdrawn from beneath the tumour. The inflammation excited by it had, since the bursting of the abscess, already much abated; and the tumour was reduced to one-third of its former size. A purplish spot, however, still existed at the upper edge, indicating that the portion of the tumour at this point was still unaltered; but, with this exception, the whole of the diseased tissue had become indurated.

June 8th. The swelling was still further diminished; the purplish spot still observable; the abscess not yet entirely healed; and the appearance of the integuments about it, such as are usually presented in the normal tissue under chronic inflammation.

After this date I lost sight of the case until December, 1838. On examining the child, at this period, not the slightest vestige of the disease remained; the integuments were of their natural colour, and the cicatrix was only observable on minute examination.

In accordance with the distinctions attempted by Mr. Wardrop, between nævus and aneurism from anastomosis, this tumour would belong to the latter class. It differed from his subcutaneous nævus, first, in having originally manifested itself at some time after birth; secondly, by originating in the skin, and extending afterwards to the subjacent tissues; and, lastly, in having a pulsatory movement. In short, the morbid development appears here to have been seated in the capillary arteries, whilst in the disease described by Wardrop, the corresponding veins were the vessels most affected.* It is worthy of further observation, in this case, that the caustic potassa, and even the cautery needles, appear to have excited so trifling a degree of inflammation; and even when this was effectually established by the seton, its progress was unusually slow, several months having intervened between the formation of the abscess and its final closure. This same observation, I find, has also been made by Mr. Lawrence, who states that, in one portion of these morbid structures, inflammation may progress to mortification, without exciting inflammation in other parts immediately adjacent.† But, when once inflamed, these tissues are apt to sphacelate, as may be seen by consulting the cases of Pelletan and others; and perhaps in the case just related, the abscess might have for a long time been prevented from closing, by a portion of this mortified tissue remaining at the bottom of it.

Case II.—Mr. H.'s son, three months old, was seen, Sept. 18th, 1837, having three nævi on its back, and another on its arm, near the elbow. The largest of these was about two inches in diameter, and seated behind the left

* See his remarks in the Lancet, vol. xii. p. 394, (June 30, 1827,) and his earlier paper on this subject in the Medico-Chirurgical Transactions, vol. ix. p. 199.

† Lancet, vol. ix. p. 163.

shoulder, involving the skin in its central part; but extending beneath the skin without involving it in the circumference. It was also somewhat elevated, and had an ulcerated spot in the middle, as large as a ten cent piece. It had existed at birth, and had grown considerably since; and, when pressed, it communicated to the finger an obscure thrill, or pulsating movement. The second was about one-fourth as large as this, and was seated on the opposite shoulder. The third one was very small, and lay immediately below the preceding. These two, as well as the spot on the elbow, were not observed at birth; they had not grown so rapidly as the first; they were apparently confined to the skin itself, and were somewhat elevated. Their colour was a bright purple; but the subcutaneous portion of the first one had a different hue, as if caused by the purplish colour striking through the healthy skin.

Through the largest of them Dr. Stevens introduced a seton, passing it, as in the preceding case, beneath the apparent base of the nævus. The second spot was removed by excision, the knife extending to the sound integument, a line or more beyond the boundaries of the nævus. Very little blood followed the operation: the integuments were drawn together over the wound by a suture and adhesive straps. The third spot was not molested at this time; but in a few days afterwards it was touched with cali purum. The spot on the elbow was left entirely to itself.

In a few days after these operations, the seton had ulcerated its way through the centre of the principal spot, without producing much irritation or inflammation. Another seton was introduced in an opposite direction, and the surface of the spot was brushed over with cali. The wound left by the incision had not united by the adhesive process, and was left to granulate. An eschar had formed over the third one, to which caustic had already been applied.

On the 30th of September, the part upon which the incision had been made was nearly cicatrized; the spot beneath it was granulating, but not so far advanced in cure. The large nævus was now an open fungous ulcer, and at first sight it might easily have been mistaken for a fungus hematodes. The second seton had nearly ulcerated its way through. Caustic was again freely applied over the surface of the sore, and a compress and roller employed, in order to repress the fungous growth.

Subsequent to this date, the two small spots on the back required no further treatment. The last application of caustic had the effect of destroying the fungus; the ulcerated surface gradually closed, and at the end of three months the disease was completely eradicated. But the integuments over the principal spot preserved a bluish tinge for some time afterwards. The spot upon the elbow still persists, without any disposition to grow larger.

The spots in this case appear to have been confined to the capillary vessels, and to have originated in the skin. The rapidity with which the setons ulcerated their way through the large nævus, does not prove that the vitality of the tumour was very great; but, on the contrary, that it was less than natural; and the slight degree of inflammation produced by the threads, is confirmatory of this remark. Judging from this case, the seton does not appear to be well adapted for the cure of superficial nævi, especially where the base is broad;—the caustic, in this case, was evidently much more effectual.

Case III.—Mr. S.'s daughter, six months old, had a congenital nævus on

the right side, near the lower margin of the thorax: it was altogether cutaneous, of a bright red colour, and somewhat elevated; it did not pulsate, and was about an inch and a half in diameter. When first observed, it was not elevated above the surface, and was not larger than a five cent piece; but within the last few weeks, it has been rapidly increasing.

On the 2d of November, 1838, Dr. Stevens, embracing the diseased portion of integument with a pair of forceps, elevated it, and removed it by one stroke of the bistoury. A small artery was observed in the centre of the wound thus made; which, from its brisk hemorrhage, appeared to be much larger than the cutaneous vessels usually are. The blood poured from it in jets, and a ligature was required to arrest the hemorrhage. On examining the extirpated portion of skin, the continuation of this vessel was observed entering at the centre of the diseased spot; and, even in its contracted state, its calibre was sufficiently large to admit a thick bristle.

The edges of the wound were approximated by adhesive straps, and in a few days afterwards the child was entirely well.

The organization of the nævus in this case, was apparently the same as in the preceding cases; and that the capillary arteries were the principal seat of disease, is proved by the dilated state of the cutaneous artery, through which the morbid structure was supplied with blood. Was the nævus in this case owing to the dilated condition of the vessel leading to it? or was the dilatation the necessary result of the increased flow of blood towards the diseased tissue? By consulting other cases, in which the expansion of the vessels was much more marked than in this, we find that the increased development of the larger vessels always begins at or near their capillary terminations, and gradually progresses on towards the heart; that the dilatation is often, but not always, attended with thinning of the coats of the vessels, but without ulceration, or any other sign of inflammatory action, in the great majority of cases. The vessels too are not merely dilated; they are also much increased in length, and twisted on themselves, and convoluted in a great variety of ways.

Case IV.—Mrs. Geer's son, aged five months, was brought to me on the 19th of June, 1838, with a nævus on the breast just over the centre of the sternum. It manifested itself soon after birth, and has since gradually increased. When I first saw the tumour it was about three quarters of an inch in diameter, and was elevated at least half that extent above the level of the skin; it was of a bright red colour, appeared to be extending to the sub-cutaneous tissues, and had a thrilling movement.

I passed a curved needle armed with silk threads from above downwards through the base of it; and tying these threads tightly on either side of the swelling, I attempted to strangulate it.

June 22d. The ligature on the right side had produced partial ulceration and sloughing at the base of the nævus. On the opposite side the string had become loose; and slipping upwards on the side of the nævus, had forced the blood out of its spongy tissue without completely strangulating the part. The ligature was again tightened.

June 28th. The ligatures ulcerating their way through the diseased skin; but at a point somewhat above the outer edge of the nævus, so that a small rim of the morbid tissue is likely to be left.

After this date, I lost sight of the case until the month of December following. I now found the central portion of the nævus replaced by healthy skin; but around this there was still remaining a ring of the diseased tissue. This ring was not elevated, it gave out no pulsation, its colour was bright red, its diameter was about half an inch, and its rim was not more than a line in breadth.

February 18*th*, 1839. The spot has extended to the sub-cutaneous tissue, and is again becoming elevated. When pressed with the finger it gives a doughy feel. Its colour in the centre is that of the healthy skin; but in the circumference it is much darker than formerly, and the sub-cutaneous veins extending from it towards the top of the sternum, are fuller and more distended than natural; so much so as to be remarked by the mother herself. She is much concerned lest the spot "should begin to grow more rapidly and bleed, as the vines begin to grow in the spring."

From this case we see the propriety, when it is possible, of removing the whole of the morbid tissue; and we have in it another evidence of the difficulty with which inflammation is brought about in these structures. Had the outer rim of the nævus been sufficiently inflamed by the ligatures, and subsequent ulceration in the centre, the diseased portion would have been altered, and made to assume its normal character as in the first case related. The disease in this case is now clearly connected with the veins.

Case V.—Miss M. W. when a child, had a nævus on the right side of her forehead. It appeared soon after birth, at first of a faint pinkish hue, which gradually increased to a bright red; it continued to increase for about two years, at which time it was nearly as broad as a quarter of a dollar; it was elevated above the surface, but flattened on the top; and so far as I can recollect, it gave a thrilling motion to the finger. Its degree of turgescence, and its colour varied with the state of the circulation. It remained stationary for a year or so longer, and then began gradually to be effaced. At the end of eight or nine years, the skin had assumed its healthy appearance in colour and structure, and there is now no remaining evidence on the forehead that a nævus had ever existed there.

From this case we learn that these tumours may occasionally disappear spontaneously without ulceration; a fact contrary to the opinion of some writers, and one by no means common: for, though they often become effaced, yet it is exceedingly rare for them to disappear and leave the skin of its natural colour.

Case VI.—Mr. C., a Scotchman, about 45 years old, in consulting with me for another disease in July, 1838, requested me incidentally to examine his back. I discovered a flattened sub-cutaneous tumour, somewhat irregular on its surface and in its shape; and, to speak within bounds, covering about a square foot along the right lumbar region, and so on up the back and round towards the right side. Towards the centre of the tumour the integuments were involved for about two inches square, and were of a deep purplish colour verging to black. Over the remainder of the swelling, the skin was of its natural colour and texture. The tumour was very yielding and inelastic, like soft spunge, and had no unnatural pulsation. The discoloration in the centre of the swelling had existed since birth: but was

originally very small. During his youth it extended to the sub-cutaneous tissue, and for a time grew rapidly; but for the last twenty years or more, it has remained stationary. At times it becomes turgid and distended, and then again subsides into its present state. It gives him no inconvenience except when it becomes turgid, and then it is attended with burning and stinging pains.

Nothing but post-mortem inspection could render it more clear, that the tumour in this case was owing to a dilated condition of the capillary veins. The colour, the inelastic spongy feel, the entire absence of pulsation; all show that the minute arteries formed no prominent part of it. In this respect it corresponds with the sub-cutaneous nævus of Wardrop; but it differs from that in having spread originally from the skin to the subjacent cellular tissue.

Case VII.—In the summer of 1828, a young woman from the country came to town to undergo an operation for a round and prominent swelling of a purplish-black colour, about the size of a wild cherry, on the margin of the lower lip near the left commissure. It had existed there since her infancy. It was removed by two incisions, one on each side of it, running obliquely downwards so as to meet each other beneath its base. The wound in the lip was afterwards drawn together by a stitch and adhesive straps. In a few days the parts had become adherent, and the deformity caused by the removal of the V-like flap, was scarcely observable.

This, like the preceding case, is one in which the venous capillaries were chiefly involved; scarcely any portion of the tumour however extended beneath the integuments.

Case VIII.—The facts of the following case have been generously furnished me by my friend Dr. Alexander Hosack of this city.

Dr. Hosack, about six years since, had charge of an infant four months old, with a congenital nævus on the side of its head. The tumour appeared to be situated wholly beneath the skin. The integuments over it were inflamed, and the tumour was rapidly increasing. It did not appear to pulsate on pressure; it was much elevated, spongy, and easily emptied of its blood; but after removing the pressure it rapidly filled again with a sort of pulsatory action. At the time of attempting its removal, it was about the size of a dollar. It was removed by excision. Brisk hemorrhage followed the operation; before the surgeon or his assistants had time to arrest the bleeding, the infant had swooned, and in ten minutes afterwards it expired.

The nævus in this case was connected with enlargement of the temporal artery, which beat very forcibly; and Dr. H. is of opinion that the tumour was formed by the immediate ramifications of this vessel. A case similar to the preceding is related by Mr. Wardrop. The tumour was sub-cutaneous and situated on the back of the neck. "It was of the form and size of half an ordinary orange," and was rapidly increasing. On the tenth day after its birth, the skin gave way and a profuse hemorrhage followed without reducing the size of the tumour, which felt warmer than the surrounding parts, and was compressible to one-third its ordinary size. "Conceiving the immediate extirpation of this tumour the only chance of saving the

infant," says he, "I removed it as expeditiously as possible, and made the incision of the integuments beyond the boundary of the tumour; aware of the danger of hemorrhage where such tumours are cut into. So profuse however, was the bleeding, that though the whole mass was easily removed by a few incisions, the child expired."*

Case IX.—An infant about three months old was brought to the New York Hospital to be treated for a swelling on the right side of the neck behind the sterno-mastoid muscle, and just above the clavicle; it was of a flattened ovoid shape, about two inches long, and not quite so broad; it was entirely subcutaneous, and quite moveable; it was easily compressed, had a doughy feel, and was free from all pulsation. The integuments over it were healthy, but had a tinge somewhat darker than natural from the colour of the tumour beneath. The swelling was gradually increasing.

I saw this case but once, and know nothing of the result. It is the only case I have observed to correspond in all respects with the subcutaneous nævus of Wardrop.

Case X.—An infant was brought to the New York Dispensary with a small cutaneous nævus on its forehead. The child had not been vaccinated, and the vaccine physician proposed to apply the virus over the nævus, stating that he had cured several similar spots in this way—the virus was accordingly inserted, the eruption that followed was smaller than usual, and after its desiccation the nævus still persisted.

Case XI.—Ann Scarlet, ætat. 23, admitted into the Cheltenham Hospital, November 17th, 1828, with a congenital nævus extending in detached portions on the outer side of the limb from the upper part of the thigh to the extremity of the little toe. When she was about seven years old, the veins of the leg first began to enlarge. At ten or thereabouts, a vein under the nævus on the outer side of the knee, gave way; she thus lost sufficient blood to produce fainting; the bleeding was finally arrested by pressure. From this time the limb enlarged rapidly, and every autumn scabs formed on different parts of the nævus which ulcerated and bled considerably. In June, 1827, she was married. During her pregnancy the limb increased more rapidly than formerly; and in the centre of the large portion of the nævus, after considerable inflammation, an abscess formed and discharged a teacupful of pus mixed with blood. She aborted at the end of the fourth month, and subsequent to this the limb had somewhat diminished.

At the date of her admission, she was pale from the frequent loss of blood, and her form was slender and much emaciated. A considerable portion of the nævus on the thigh was in a state of ulceration, and bled at every change of dressing; a similar bleeding ulcer existed near the ankle. The veins of the leg on the outer side of the limb, says Mr. Averill, were in a more varicose state than any he had ever seen; while those on the inner side of the limb were entirely unaffected. The diseased thigh was an inch and a half more in circumference than the other; and the calf of the diseased leg was five inches and a half greater than that of the sound limb. She suffered great pain in the limb, had occasional discharges of blood from the hemorrhoidal veins; and sometimes, when sick, threw up blood from the stomach.

* Medico-Chirurg. Transact. Vol. ix. p. 202.

The disorder of the stomach was relieved by the internal use of nitrate of silver, aided by a blister over the epigastrium. Bandages were tried for unloading the veins of the limb, but these were found to be painful and of no avail, and were consequently abandoned. An elastic stocking and thigh-piece, contrived for the occasion, answered a better purpose; the thigh-piece however was not applied until after the ulcer had healed. She continued the use of the apparatus until leaving the hospital, (January 23d, 1829) being restricted, in the mean time, to light and easily digested food. Her general health was now restored; her thigh was reduced to its natural size, and the leg very little larger than the other. The veins were also much diminished in size. She was directed to continue the use of the apparatus.

This is one of the most striking cases I find on record of general dilatation of the *larger veins* of a limb connected with a nævus. A case, no doubt of the same kind in which the vessels of the arm and hand were involved to a very great extent, is related by Mr. Abernethy. Mr. Adams has reported some cases in which nævi, situated on the tongue, were connected with great enlargement of the veins. This form, he says, "grows slowly and has no pulsation. At other times it assumes a sudden increase of size, particularly in females during the menstrual period."* But as a still more positive proof that the veins are at times extensively involved, we may refer to a preparation of this sort in Guy's Hospital Museum, presented by Sir Astley Cooper.†

Case XII.—Catharine Micart had two congenital spots of the colour of wine lees, one upon the left ear, and the other on the left parietal region. In the course of a few years the two spots united, and produced considerable tumefaction. About her eleventh year, the tumour began to increase, small openings occurred spontaneously upon it, and gave issue to arterial hemorrhage. A free incision was made into it, from which a great quantity of blood escaped; but this was permanently arrested by pressure, and in a month afterwards the wound had cicatrized. In the mean time the tumour continued to increase. In September, 1805, the patient, then eighteen years old, entered the Hôtel Dieu, in consequence of bleeding produced by a puncture which had been made some days previous at the upper part of the ear.

The tumour at this time occupied the whole of the temporal region, and appeared to be composed of arteries enormously dilated. The ear was red, large, and agitated throughout by pulsations synchronous with those of the heart. At the top of the helix was a cicatrix which gave way at the slightest touch, and the crevice resulting from its rupture furnished a brisk and obstinate hemorrhage; and this was renewed at every attempt to change the dressings. Pressure applied over the temporal artery arrested the movement and pulsation in the anterior part of the tumour. Permanent compression over this vessel was therefore commenced as a means of cure; but

* Dublin Journal, (from the report of the Transactions of the British Association for 1835,) Vol. viii. p. 218.

† Catalogue of the Anatomical Museum of Guy's Hospital. London, 1829, preparation 1538, marked "Nævus Maternus of Foot; it consists of a congeries of dilated veins, which are filled with wax.

it was found to be too painful to be continued. M. Pelletan next undertook to secure the temporal and occipital arteries: but in the operation the temporal artery was transfixed, and only partially taken up; and in passing the needle under the occipital artery, blood gushed out from both extremities of the puncture; but after dividing the integuments over it, this vessel was secured, and pulsation ceased in the tumour. Compression was again employed, but it produced a slough, in consequence of which it became necessary to dress the part oftener than usual; at each dressing the hemorrhage recurred; and the pulsation, though less strong than formerly, was renewed. In the course of treatment, constitutional symptoms ensued, erysipelas appeared on the face, an abscess formed in the centre of the tumour, and another over the sternum; the occipital artery bled frequently; and finally, at the end of two weeks from the operation, the patient sunk.

In the *post-mortem examination*, the integuments of the scalp, and of the left ear, were found of their natural structure. There was a cicatrix at the parietal protuberance: behind this, the opening of an abscess; and upon the helix, a small opening filled with clotted blood. Under the skin, from the zygoma and occipital tuberosity up to the top of the head, existed a thick layer of dense cellular tissue infiltrated, or rather interspersed, with small and distinct masses of pus. The cellular tissue of the ear was very red, and was formed by the interlacing of a great number of dilated veins and arteries.

All the arteries comprised in the tumour below this tissue, were dilated, tortuous, and nodulated in a very irregular manner; and filled either with coagulated blood, or with a white thick humour. The temporal artery was dilated and pervious to within an inch of the ligature; that portion of the vessel which had not been included in the ligature formed a fibrous cord at the bottom of the wound. The vessel higher up, and its branches, were enlarged, as before stated; and the branches of the occipital artery were also knotted, tortuous, and dilated.

The arteries throughout the body, according to Dupuytren's testimony, were thinner than natural, and the smaller ones collapsed like veins, from which they were with difficulty distinguished. This wasting of the parietes of the arteries was much more remarkable in the vessels of the fifth or sixth order, than in those of larger size. Purulent depositions were found in the liver; and there were evidences of recent inflammation of the pleura, the lungs being united to the parietes of the chest.

This case has been differently related by Pelletan,* who had charge of it, and by Dupuytren, who furnished an account of it for Breschet's Essay on Aneurism.† It is also related by Boyer‡ and other French writers, and appears to have been the first case that called the attention of the French surgeons to this subject.§ The patient's death may be attributed, not to the

* Clinique Chirurgicale, tome ii. p. 59.

† Mémoires de l'Académie Royale de Médecine, tome iii. p. 154.

‡ Maladies Chirurgicales, ii, p. 374.

§ Pelletan, Clinique Chirurg. tome ii. p. 65. Other cases of this disease, recorded as anomalies, are to be found in the works of several of the older continental writers. One of the most striking and graphic of these is quoted by Boyer, tome ii. p. 378, from the Mém. de l'Acad. des Sciences de Montpellier, tome i. He also refers to cases of the same disease in the writings of Fabricius Hildanus, Severinus, and J. L. Petit.

irritation of the tumour; but rather to the inflammation of the vessels, and the secondary abscess following the operation. It is evidently a case in which the nævus extended from the capillaries, its original seat, to the larger arteries; but that there must have been also some congenital weakness predisposing to this disorder in the arteries, is probable, from facts observed by Dupuytren. Breschet relates a case similar to this, on the right side of the head, in a woman over sixty years of age, who died of exhaustion from frequent hemorrhage. The structure of the tumour was similar to the preceding: "The right carotid was much dilated, tortuous, and three times its natural length. An analogous disposition was observed in the whole course of the aorta; but not to so marked a degree: the same condition was observed in the primitive iliacs, but the vessels of the extremities were natural. In every part where the arteries were dilated and twisted, their parietes were thin, soft, flaccid, and more like the parietes of veins than of healthy arteries."*

Breschet also relates another case of this disease, in which both veins and arteries were enormously dilated. The tumour originated in the left thyroid gland. The patient was a boy about ten years old; and in the course of a year the swelling had grown to be as large as a child's head at birth. An attempt was made to extirpate it; but the violent hemorrhage during the operation deterred the surgeon from proceeding: a metallic ligature was drawn round the base of the tumour, the bleeding was thus arrested; but the child became convulsed, and died in the course of the night. "The thyroid veins, but more especially the arteries, both the upper and lower on the left side, were tortuous, and essentially composed the tumour by their numerous branches, the calibre of which was developed to ten times their natural size."†

The few cases of Telangiectasis now related are sufficient for illustrating its pathology; and when considered in connection with other cases of similar character, recorded by J. Bell, Abernethy, Pelletier, Boyer, Travers, Dalrymple, Wardrop, Lawrence, Marshall Hall, Macilwain, Roux, Breschet, Dupuytren, Bushe, and others,‡ we have a collection of facts sufficient for establishing its various forms, as well as its identity, under the variety of names and arbitrary distinctions that have hitherto been assigned to it.

How much soever then the morbid structures denominated nævi materni, aneurisms from anastomosis, pulsating vascular tumours, varicose tumours, bloody tumours, erectile tumours, angiectasis, telangiectasis, &c. may differ

* Mémoires de l'Académie Royale de Médecine, tome iii. p. 177.

† Ibid. p. 133.

‡ Rayer, Maladies de la Peau, tome ii. p. 664, refers to an extensive paper on this subject by Claudius Tarral, in the Archives Générales de Médecine for 1834. This I have not as yet been able to obtain.

from one another in their symptoms and progress, they all essentially depend upon a preternatural and irregular development of the minute blood-vessels; the disease in most cases, if not in all, occurring primarily in the capillaries, from which, in progressing, it may extend to vessels of much greater size.

That the capillaries are the vessels primarily affected, is sufficiently established by the fact that when the disease is effectually arrested in its early stages, either by excision or otherwise, the morbid growth is invariably prevented from extending to the larger trunks; and that in those cases where the vascular development never progresses to the formation of a tumour, but produces merely a discoloration without any elevation on the surface of the skin, no other vessels than the capillaries are involved. I do not find an instance to show that the dilatation ever progresses from the larger to the smaller vessels; but, on the contrary, the disease, commencing in the capillaries, may extend to all the vessels of a limb, or even to the largest vessels of the body.

This mode of progression is of some importance in showing that the dilatation of the capillaries is an active state, and not the result of passive distention. These minute vessels, so to speak, draw the blood towards themselves, and call upon the larger vessels immediately beyond them for an increase of action; and hence the gradual and progressive development of the latter from their extremities upwards. It is also of further importance in pointing out the distinction between the dilated condition of the larger vessels in this disease, and that which is observed in aneurism proper; the one being the result of actual growth; the other of inflammation, ulceration, or of passive dilatation. It might indeed be argued in favour of the passive dilatation of the vessels in this disease, that their parietes are sometimes thinner than natural; but this is not invariably the case, and never to such a degree as to allow their calibre to be dilated to ten times its natural dimensions, much less to allow the whole vessel to be increased to more than three times its natural length. In the case No. 3. the parietes of the vessels were rather thickened than attenuated. The disease, indeed, admits of an increased thickness of the parietes as well as an increase of calibre, and an increase in the length of the vessels. In this respect the vessels of the morbid tissue resemble those of some of the normal structures, which, under peculiar circumstances, undergo an active development, as in the vessels of the impregnated uterus, or in those that supply the stag's horns during their rapid evolution.

The period at which the disease may extend from the capillaries to the larger vessels, and take on a rapid development, differs greatly in different cases; in some commencing almost immediately after birth, in others a few months later, or at any time during childhood, adolescence, or afterwards. In the majority of cases, perhaps, the disease never extends to the larger vessels at all; but after existing in the form of an elevated and discoloured spot on the surface of the body, as the individual grows up, this finally shri-

vels, and sinks to the level of the skin, and afterwards exists as a mere discoloration; or even the discoloration may be effaced, and the skin present its natural appearance. The size, colour, and turgescence of these tumours, vary materially with the state of the general circulation. It is stated that they are more apt to take on a rapid growth about the period of puberty than at any other age; but after referring to the history of a great number of these cases, I am satisfied they are no more liable to active development at this, than at any earlier period.

The same class of vessels may be involved, and the same train of symptoms may follow, whether the disease be congenital, or induced at any period subsequent to both; and hence the particular period of life at which it first becomes manifest, affords no sufficient reason for establishing the pathological distinctions which some have attempted between nævus maternus proper, and aneurism from anastomosis; or between the congenital and the accidental nævus.

These vascular growths possess but a very low degree of vitality. Dupuytren, in comparing them with the erectile tissues of normal character, states that their supply of nervous influence is small. Their sensibility indeed bears no proportion to their supply of blood; they are not easily irritated or inflamed; and when once inflamed they have a tendency to slough; and where mortification does not ensue, the inflammation does not readily extend itself to the surrounding parts of the diseased tissue, and is slow in passing through its several stages. In the case first related, the potential and even the actual cautery were several times employed without exciting actual inflammation to any extent around the immediate spot upon which they were applied. The same amount of irritation in any of the normal tissues receiving an equal or any approach to an equal supply of blood, would have excited much more acute and extensive inflammation. Are we not then justified in concluding from this fact, that something more than great vascularity is requisite for inducing inflammatory action even in the healthy tissues? These, under a given supply of nervous influence, in proportion as their vascularity is augmented, have their irritability exalted, first within the range of health, but beyond this, to the production of morbid sensibility and actual disease. We are told that in the bones and other white tissues, inflammation is not readily induced, because their supply of blood is small. Might we not also add, because their supply of nerves is equally deficient? Where nervous influence is weak, then, even in the most vascular tissues, inflammation is not easily excited, nor is it so active in its progress, or so apt to spread, as under other circumstances. If these points be admitted, (and the facts above noted are sufficient to establish them,) the agency of the nerves, in determining the phenomena of inflammation, will be rendered more manifest, and shown to be of more importance, than has hitherto been generally acknowledged.

Breschet* and others, admit that the disease under consideration, may manifest itself in almost every tissue of the body. "It is developed," says Dupuytren, "in all parts of the body, but most frequently in the lips, doubtless in consequence of their spongy and vascular structure. It has been met with on the arm, fore-arm, thigh, scalp, ear, cheek, and organs of generation; in the tissue of the skin, in the muscles, the periosteum, the bones, the kidney, the liver, &c."† One case is recorded by Cruveilhier, and another by Pelletan, in which this disease is said to have originated in the brain.‡

Without questioning these authorities, I must nevertheless observe, that in most of the cases on record bearing intrinsic evidence of belonging to the disease under consideration, the morbid growth has had its origin either in the common integuments, the mucous membrane, or in the cellular tissue. Doubtless it may originate in other textures, as in the case quoted from Breschet, where it commenced in the thyroid gland; but many of the cases in which it is said to have occurred in the bones, in the viscera, among the muscles, &c., are, to say the least, equivocal; and no doubt some of them were of a carcinomatous nature.

The various forms of telangiectasis may be divided; first, *in relation to their seat*—into the cutaneous, the subcutaneous, and the mixed; secondly, *in relation to the class of vessels affected*—into those involving the capillaries only, those extending to the arteries, and those extending to the veins.

1*st. Of the Cutaneous Nævus.*—This is the simplest form, and the one best known to the profession. It is almost invariably congenital, and is manifest either at birth, or within a few days afterwards. In some few instances, however, it originates spontaneously at a much later period. A few years ago, I observed for the first time a bright red spot, on my own face. For a length of time it appeared to be a mere point; this gradually increased in size, and two or three similar points, not quite so superficial, were to be ob-

* Mémoires de la Académie Royale de Médecine, tome iii. p. 128. In his essay published in this work, Breschet refers to the Répertoire d'Anatomie, tome i. for 1826, in which he records a case of this disease originating in the bone. This case I have not the means of referring to, but I am informed by my friend John Hamilton, Esq. of Dublin, that after studying Breschet's case attentively, and the cases which he quotes from Dupuytren and others, as aneurism by anastomosis in the bone; he is convinced they were of malignant character, "obviously fungus hematodes"—and his opinion is confirmed by a similar avowal, made to him in relation to the same cases, by Mr. Hodgson of Birmingham. The impression existing in France, even up to the present time, in relation to these two very distinct forms of disease, is sufficient to account for Breschet's misapplication of the term "aneurism by anastomosis,"—and the same may also apply to some of the cases of erectile tumours of Dupuytren. Dr. Bushe, I conceive, has committed a similar error in a case which he relates as telangiectasis originating in the medullary cavity of the tibia. The case has to me more of the character of the malignant fungus. See the New York Medico-Chirurgical Bulletin, vol. i. p. 59.

† Leçons Orales de Clinique Chirurgicale, tome iv. p. 51.

‡ Mentioned by Bushe. Loco citat. p. 65, from Cruveilhier, Anatomie Pathologique, tome ii. p. 133—83. Pelletan, Clinique Chirurg. tome ii. p. 76.

served about it; the whole giving a slight elevation to the skin, and feeling like a little pimple or fine grain of sand under the finger. Some months ago I punctured the principal spot with the point of a needle. It bled for half an hour, and continued dripping slowly afterwards for several hours; the single puncture must have given exit to more than two drachms of blood; and since that time the spot has somewhat diminished.

These nævi are, at birth, unattended with any tumefaction; but as the child grows the discoloration spreads, and sometimes the spot becomes elevated above the level of the skin. Continuing to increase, it demands an additional supply of blood, and the vessels leading to it are consequently increased in size, and the temperature of the part is greater than natural.

The cutaneous nævus has rarely a strong pulsatory movement, but still a feeble thrill may be at times very perceptible on pressure. After continuing to spread for some time, it may become stationary; and finally, falling to the level of the skin, exist afterwards as a mere stain upon the surface; or continuing to increase, it extends to the subjacent tissue, and thus constitutes what may be called the mixed form.

2*d. Of the Mixed Nævus.*—The subcutaneous cellular tissue becoming involved, the disease now produces more deformity, elevating the integuments in the form of a soft bosselated tumour. The original cutaneous spot still exists in the centre; but the rest of the swelling is marked by no discoloration, or at most, only a faint tinge of purple or red; caused by the colour of the subcutaneous portion of the tumour striking through the healthy integuments. The swelling now communicates a whizzing or vibratory movement to the finger when pressed upon; the blood is easily forced out of it; but, on removing the pressure, the swelling soon regains its former size. The veins in the neighbourhood of the tumour are sometimes observed to be much fuller and larger than natural, and the arteries also in some cases beat strongly over a great extent of surface. The integuments occasionally ulcerate, and the patient is then subject to hemorrhage from the slightest abrasion of the surface. Sometimes the whole tumour, ulcerating or becoming inflamed, sloughs away, and a spontaneous cure is the consequence.

3*d. Of the subcutaneous Nævus.*—This possesses all the characteristics of the last, except that it does not originate in the skin, or even extend to it. This swelling, too, is moveable at first, and appears to be covered by a proper coat of dense cellular tissue. The pulsation in it is not generally very strong, and sometimes is not to be felt at all. The irritation produced by it among the surrounding tissues, as in the case of the mixed nævus, may excite inflammation, ulceration, or even destructive action; and these morbid changes extending to the surface, necessarily give rise to frequent hemorrhage; or progressing in other directions, injure or destroy the muscles, fasciæ, and even the bones themselves.

The divisions of telangiectasis founded on the particular class of vessels involved, are the most proper for illustrating the anatomical structure of the various tumours grouped under this head.

Telangiectasis of the Capillaries.—It is probable that in the majority of these spots, whether cutaneous or deep-seated, the minute arteries and veins next in order above the capillaries, are also more or less affected. It is only therefore in cases where important vessels participate in the disease, that we must refer the tumour from this to the other varieties. When the capillary nævus is examined, it is found to be seated sometimes in the venous, sometimes in the arterial portion of these vessels, and sometimes affecting both. Its colour is modified according to these circumstances, being of a brighter or darker hue, according as the arterial or venous blood prevails in it. When the swelling is cutaneous, the vessels themselves constitute the great mass of the nævus; for here the cellular tissue is not found in sufficient quantity to form any important portion of it. But when the tumour lies in the loose tissues beneath the surface, the enlarged and elongated capillaries are bound together by a matrix of cellular tissue; and they are often so much dilated and contorted as to form irregular cells of themselves. Some have indeed described them as being composed of cells into which enlarged vessels enter. "The tumour," says Bell, "is composed of small and active arteries, absorbing veins, and intermediate cells. The irritated and incessant action of the arteries fills the cells with blood: from these cells it is re-absorbed by the veins: the extremities of the veins themselves perhaps dilate into this cellular form."* Mr. Wardrop in describing a subcutaneous nævus, states that "the boundaries of the tumour appeared distinct, some healthy cellular membrane surrounding it, which was traversed by blood-vessels. On tracing these vessels to the diseased mass, they penetrated into a spongy structure composed of numerous cells and canals of a variety of forms and sizes, all of which were filled with the injection, and communicated directly with the ramifications of the vessels." Several of the vessels, he states, from the thinness of their coats, appeared to be veins much enlarged,—and some of them sufficiently big to admit a full sized bougie. "These cells and canals had a smooth and polished surface, and in some parts resembled very much the cavities of the heart, fibres crossing them in various directions like the columnæ tendinæ."† More recent observers state that this cellular appearance is deceptive, produced by the particular mode in which the tumours have been examined, and by the irregular shape, size and course of the vessels themselves. That they are almost entirely composed of arteries and veins, has been proved by Mr. Sheckleton, who injected them with wax, and afterwards corroded the soft materials, so as to show the true form and course of these vessels.‡

* Principles of Surgery. By John Bell, vol. iii. p. 386. London, 1826.

† Medico-Chirurg. Transact. vol. ix. p. 204.

‡ See a notice of Mr. Sheckleton's preparations, Dublin Journal, vol. viii. p. 219.

Telangiectasis extending to the larger Arteries.—In many of the cases on record, the larger vessels have become diseased only after the capillaries have existed in a morbid condition for a number of years. In other cases, however, there appears to have been a congenital weakness of these vessels, co-existent with an evident disease in the capillaries: such was probably the fact in some of the cases of Breschet to which I have already alluded. The diseased arteries are sometimes simply dilated; sometimes they present great irregularity as to their calibre, their length, and the thickness of their parietes; and in almost all cases they are convoluted, or rolled upon themselves; sometimes constituting a mesh of vessels united together by cellular tissue, so as to present a soft fluctuating and pulsating tumour, which, by its growth and constant action, produces disturbance in the surrounding parts; sometimes winding along the limb in an irregular course, as in varix of the lower extremities, without forming any distinct tumour, or congeries of vessels. It has been supposed that the vessels in this disease form more frequent anastomoses than in their healthy state; such, however, has not been proved to be the fact, and some who have written on this subject, have denied it.

Telangiectasis extending to the larger Veins.—Instances of the disease extending more particularly to the veins than to the arteries, are by no means frequent. The veins, it is true, are generally enlarged in cases where the arteries are dilated; but not to so great an extent. Case X. is an instance of this disease in which the veins were principally affected. The appearances presented are nearly the same as in ordinary varix.

Diagnosis.—The diseases with which telangiectasis is most liable to be confounded, are different according as it is superficial or deep-seated, and according as it affects the capillaries only, or extends from these to the larger arteries or veins. It may be mistaken for aneurism proper; for varix; for aneurism by erosion, or the aneurism of Pott as it has been called by the French; for cephalæmatoma or the bloody tumour occurring on the head of new-born infants; for encysted or other non-malignant tumours; and for fungus hematodes.

With aneurism proper, Breschet has indeed grouped one of the forms of this disease, viz. that in which the dilatation is extended to the arterial trunks, calling this the *cylindroid* aneurism when the calibre of the artery is dilated regularly, and *circoid* aneurism when the dilatation is irregular and the vessel tortuous and nodulated. But the gradual progress of the disease from the smaller to the larger vessels, the co-existence of nævi from which the dilated vessels appear to emanate, the want of coagula in the dilated trunks, their tortuosity, and the irregularity in the thickness of their parietes, independent of inflammation, ulceration, rupture, or cartilaginous or earthy deposit; not to speak of the age and class of patients most frequently affected; may be sufficient to characterize this disorder. But in those persons, in whom the parietes of the arteries are thinner than natural, it is pro-

bable that causes, insufficient to excite proper aneurism under ordinary circumstances, might here induce it; and thus the two disorders might be found co-existing in the same subject. Again, in some cases of aneurismal varix, the disturbance in the circulation, produced by the unnatural communication between the artery and vein, may lead to irregular dilatation, twisting and elongation of these vessels. But in all such cases the causes of these changes must be sufficiently apparent.

The varicose state of the veins produced by stasis of blood, or by interrupted circulation in these vessels, as seen in the lower extremities, and sometimes in other parts, (as in the spermatic cord,) might be mistaken for this disease. The freedom from cutaneous nævi or from pulsating tumours, the age and habit of the patient affected with varix, its seat, and its exciting cause, are sufficient to distinguish it. The disease sometimes called Pott's disease of the leg; sometimes the aneurism of Pott, or aneurism by erosion of the artery, may be mistaken for some of the severer forms of telangiectasis. Cases of the disease now referred to, are given by Pelletan,* Hodgson,† and others: and as I have never verified it by dissection, I must refer to Potts' original description of it.‡

The only case of cephalæmatoma, that has fallen under my observation, might have readily been mistaken for a subcutaneous nævus. The tumour was seated over the sagittal suture, was as large as a pullet's egg—it existed at birth, and the integuments over it were of their natural character. The tumour, however, did not throb; and though it had a soft doughy and inelastic feel, it could not be diminished by pressure; and no enlarged vessels were observed in its neighbourhood.§

The subcutaneous nævus may be mistaken for encysted and other tumours. The thrilling or pulsatory movement of the nævus, the ease with which it may be diminished by pressure, and its almost immediate return to its former size when the pressure is removed, will distinguish it from these.

In some cases of superficial nævus where the integument has ulcerated, and the disease is shooting forth in the form of a spongy tissue, bleeding at the slightest touch, it may be difficult to distinguish it from fungus hematodes. But the early history of the case, the strictly local character of the disease, its continuance for years without involving the general health further than by the loss of blood which it may occasion, or by the pressure and consequent disturbance which it may cause in the adjacent tissues; the absence of carcinomatous growths in other parts of the system, and the im-

* Clinique Chirurgical, tome ii. p. 37. et seq.

† Treatise on Diseases of the Arteries and Veins, p. 448, et seq.

‡ Surgical Works, vol. ii. p. 321. Philadelphia, 1819.

§ See Bushe's paper on "Hematoma of the head in new-born children," in the New York Medico-Chirurgical Bulletin, July, 1831. Also, a monograph on the same subject, by Prof. E. Geddings, in the American Journal of the Medical Sciences for Feb. 1839.

munity of the patient from all chance of its recurrence after having been once fairly removed; are sufficient to distinguish it from fungus hematodes.

Causes.—Boyer has divided this disease into two kinds, the one congenital, the other accidental. In the great majority of cases the derangement in the vascular structure which constitutes this disease, is attributable to a primitive defect in the organization of the capillary vessels, and perhaps also in some of the vessels of larger size. That form of telangiectasis which involves the arteries, and which is marked by strong pulsation, and rapid and obstinate growth, is, I believe, the only one that has been described as occasionally resulting from local injuries. Travers and Dalrymple recite cases in which this form occurred spontaneously within the orbit in females during pregnancy. Long continued pressure, severe blows, and various kinds of local irritation, have been advanced among the exciting causes.

Prognosis.—The danger to be apprehended from nævi varies with their size, their seat, the class of vessels principally involved, and the rapidity of their growth. When confined to the skin, unless undergoing rapid development, or becoming ulcerated, they require no special attention. When seated in the subcutaneous cellular tissue, or when they extend to this from the surface, and especially when the vessels leading to them are much enlarged, they never entirely subside of themselves; they may continue to grow for years, and then either become stationary, or by exciting irritation in the surrounding tissues, produce caries of the bones, or ulceration of the soft parts; and by frequent and profuse hemorrhage, finally exhaust the patient.

Treatment.—The treatment applicable to the different forms of telangiectasis has, within the last thirty years, been the subject of much speculation and experiment. Without attempting to dwell upon the various operations that have been suggested, and all of which have been practised with more or less success, we may remark, that they have hitherto been devised for fulfilling either one or more of the following objects:

1*st.* To prevent the undue ingress of blood, and thus to allow the morbid growth to contract to its natural condition.

2*d.* To remove the diseased tissue, and to allow the wound or ulcer, thus left, to cicatrize.

3*d.* To induce a change of action in the diseased tissue, by which it may be consolidated and deprived of its undue supply of blood, and thus allowed to assume its natural appearance and character.

The means employed for fulfilling the first of these objects, are, for the most part *mechanical;* and act either by compressing or constringing the diseased vessels, or by cutting off the channels through which they are principally supplied with blood. The means for fulfilling the second object, are *destructive:* among them are grouped excision, caustic and corroding applications, and the ligature en masse. Those for effecting the third object are *physiological,* and have been instituted for exciting inflammation and the

consequent effusion of coagulable lymph within the diseased structure; and thus, on the subsidence of the inflammation, to reduce the vascularity of the part. Among these means may be enumerated, 1st, the introduction of the cataract needle for lacerating the central portion of the tumour: 2d, the introduction of heated needles: 3d, vaccination and the production of artificial pustules immediately over the diseased mass: 4th, injection of stimulating liquids among the diseased vessels; and, lastly, the introduction of the seton beneath them.

1*st. By Compression.*—This is rarely or never employed for removing the cutaneous nævus; and for the deeper forms it is generally a tedious and uncertain means of cure. Bell has stated that compression tends rather to aggravate than to remove these swellings; yet in the hands of Pelletan, Boyer, Roux, and Dupuytren, this mode of treatment has been occasionally successful. A striking example of its efficacy is related by Boyer. His patient, an infant, had a pulsating tumour near the lower part of the septum of the nose; the position being such as to prevent complete extirpation, he advised the mother to foment the tumour with alum water, and to press it between the thumb and finger as often as she could. I attached, says he, but little importance to this advice. It was followed, nevertheless, with all the perseverance that maternal tenderness could inspire, the mother often spending seven hours at a time in compressing the spot without removing her fingers. This perseverance was followed by success so complete that in August, 1809, having been consulted anew concerning this young person, now twelve years old, it was impossible, he observes, to recognize any remains of the tumour.*

2*d. By Pressure and Cold combined.*—This practice was first instituted by Abernethy. Finding that, in some forms of the deep nævus, the temperature of the swelling was greater than natural, he concluded that the disease was owing to "a kind of inflammatory action of the surrounding arteries," and therefore resorted to these means as the most applicable for diminishing the tumour and reducing this action. His first case was one of mixed nævus, complicated with great enlargement of the vessels over the hand and forearm. A manytailed bandage of sticking plaster was applied over the limb, and the whole kept moist with cold water. Whatever we may think of the pathology upon which this practice is founded, we cannot question its success. In six months from the time of commencing treatment, the disease was cured. He relates another case treated successfully by cold alone. The nævus projected from the orbit, closing the eye, and forming a tumour as large as a walnut. "Pressure, to any extent was here evidently impossible; but the abstraction of heat, and consequent diminution of inflammatory action, might be attempted." He therefore recommended "that folded linen wet with rose water saturated with alum, should be bound on

* Maladies Chirurgicales, tome ii. p. 382. Paris, 1831.

the projected part, and kept constantly damp." At the end of three months the tumour had shrunk within the orbit, and the child could open its eye.*

3d. By Ligature to the Artery supplying the Tumour.—This process is applicable only to those severe forms of nævus or aneurism from anastomosis in which other means have failed, and in which the disease has extended from the capillaries to the larger vessels, particularly to the arteries. Pelletan was the first to institute this practice. His case I have already quoted—(see Case XI.) The carotid artery was first successfully taken up for the cure of this disease by Mr. Travers;† afterwards by Mr. Dalrymple;‡ and since these operations several other successful cures have been recorded. In not a few instances, however, this practice has been unsuccessful in removing the disease; and in several cases it has been the immediate cause of death.—Bushe relates a case of extensive and increasing nævus in an infant between six and seven weeks old, for the cure of which, without attempting any other previous treatment, he took up the common iliac artery. The child lived about five weeks after the operation.§ Judging from the cases on record, in which the larger arteries have been taken up for the cure of these tumours, we may fairly conclude that much harm has been done by rashly resorting to this practice; that it should never be attempted until other means have failed; and then, only when the urgency of the case is sufficient to warrant it. The danger of operations on the brachial or femoral artery, or their immediate branches, for pulsating nævi, is not usually so great as operations on the carotid, or the larger vessels of the trunk. But even operations on the large vessels of the limbs are sometimes insufficient to arrest the growth of these tumours. Mr. Lawrence relates a case of aneurism by anastomosis on the finger in a woman twenty-one years old; the disease was congenital. In 1815, Mr. Hodgson, finding that the beating could be arrested by pressure on the radial and ulnar arteries, attempted to cure the disease by tying these vessels. The immediate consequences of the operation were a cessation of the beating, collapse of the swelling, and relief from the pain; but these symptoms all recurred in a few days, and were just as bad as before. Mr. Lawrence finally cured the patient by making a circular incision through all the soft parts of the finger above the tumour, excepting the flexor tendons with their theca and the extensor tendon; and afterwards allowing the wound to heal as an ordinary cut. In this case the digital artery was found equal in size to the radial or ulnar of an adult, and was the principal nutrient vessel of the disease.‖

4th. By Excision.—The mode of destroying nævi by excision was recommended and practised by J. L. Petit, and has been in general use ever since

* Abernethy's Surgical Works, vol. ii. p. 37. Hartford, 1825.
† Medico-Chirurg. Transactions, vol. ii. p. 1.
‡ Ibid. vol. vi. p. 111.
§ New York Medico-Chirurgical Bulletin, vol. i. p. 54.
‖ Medico-Chirurg. Transac. vol. ix. p. 216.

his time. In the cutaneous nævus, of no great size, it is the most effectual, the readiest, and least painful practice. It is not, however, applicable to very large nævi. In the subcutaneous nævus it has been followed by fatal hemorrhage; and it is altogether improper in those forms of the disease which are complicated with extensive dilatation of the larger vessels. In resorting to excision for the removal of these tumours, in order to avoid hemorrhage as much as possible, it is important to carry the incision through the healthy tissues surrounding them, and not into the diseased mass.

5th. By Caustic Applications.—In the small cutaneous nævus, where a slight and single application of caustic may be sufficient to destroy the spot, as in the spider nævus; and especially when such spots are situated on parts of the body where the cicatrix left by the application may not disfigure the individual, this practice may be employed with advantage. It is rarely advisable in extensive nævi, never in those that are deep-seated, or connected with enlargement of their nutrient vessels. Dr. Hosack informs me that he has seen the caustic potassa applied to a small nævus on the side of the nose, and the effect of it was so severe as to completely destroy the cartilage, and expose the cavity of the nostril. The great objection to the use of caustic applications is, that the extent to which they act can never be precisely regulated. When applied cautiously they often fail in effecting a cure; and sometimes, merely destroying a part of the morbid tissue, they allow of fungous growth and frequent hemorrhage from the part remaining.*

Various caustic applications have been used, as quick lime and soap in equal parts,† the butter of antimony,‡ potassa,§ nitrate of silver, the mineral acids, tartar emetic ointment. In short, any corroding application may be employed for the purpose.

6th. By the Ligature en masse.—The application of ligatures for the purpose of arresting the circulation in these tumours, and allowing them to slough, was suggested, if not practised, by J. Bell. Pelletan has also recorded a case in which he applied it;‖ but the attention of the profession was first particularly directed to this important means, by the success attending it in the hands of Mr. Anthony White.¶ It is applicable to the elevated and

* Boyer, Maladies Chirurgicales, tome ii. p. 395. Paris, 1834.

† Recommended by Callissen. See Cooper's Dictionary.

‡ Pelletan, tome ii. p. 76, states that, while he was a pupil, he had seen this caustic application used, in a severe case of varicose tumour of the head, by M. Moreau. The patient died; and, on examination, it was found that the pressure of the tumour, growing from within, had produced an obliteration of the frontal bone, and through the openings in the bone the corroding liquid had entered, and excited extensive inflammation of the dura mater and parts within the skull.

§ Used by Pelletan, tome ii. p. 69. Mr. Wardrop, however, has the credit of being the first to employ this and the nitrate of silver extensively and with success.

‖ Loco citato, p. 71.

¶ Medico-Chirurg. Transac. vol. xiii. p. 444. See also this Journal, vol. ii. p. 220.

subcutaneous nævus. The ligature should be introduced doubled, by means of a needle, under the base of the nævus, and should be drawn sufficiently tight to arrest the circulation in every part of the diseased tissue. The principal inconvenience attending it, is the excessive pain, (which is sometimes so severe as to excite convulsions,) after the ligature has been tightened.—In cases where the tumour is entirely subcutaneous, much of this suffering may be avoided by the practice recommended by Mr. Liston, which consists in dividing the integuments by a crucial incision over the swelling, dissecting back the flaps, and applying the ligature around the base of the tumour without including the skin.* The ligature is generally allowed to remain until the nævus has sloughed; but in some instances it has succeeded, even though removed before disorganization had commenced.†

7th. By Lacerating the Morbid Tissue.—This practice was introduced, and successfully employed, by Dr. Marshall Hall;‡ and has succeeded in other hands. It consists in puncturing the nævus with a cataract needle, and carrying the blade of the instrument in various directions through the tumour. After withdrawing the needle, pressure is to be applied for forcing the blood out of the diseased part. The inflammation following this process is in some cases sufficient to effect a cure without causing a cicatrix, or leaving any deformity. It is applicable to the cutaneous, the small subcutaneous, and the mixed nævus.

8th. By Vaccination and Factitious Eruptions.—Vaccination for the purpose of exciting inflammation in these spots was first proposed by Mr. Hodgson;§ and in some cases of cutaneous nævus it is sufficient to effect a cure. The virus should be introduced at several points around the base and over the surface. Where vaccination has already been performed, and the patient is no longer susceptible of its influence, Mr. Young, of Glasgow,‖ has recommended antimonial ointment, with the view of producing an eruption, and effecting a cure in the same way as with the vaccine virus.

9th. By the Cautery Needles.—The first notice I find of this practice is in a case in which Mr. Macilwain employed it unsuccessfully. The case was one of subcutaneous nævus. He endeavoured to excite inflammation by passing red hot needles through its substance. "These measures were repeated thrice at intervals of about a week; each puncture was followed by a single jet of arterial blood, and produced considerable constitutional disturbance, which continued for about twenty-four hours; but they were followed by no diminution of the tumour, which, on the contrary, increased slowly but pro-

* British and Foreign Medical Review, vol. iii. p. 557.

† Lawrence, in the Medico-Chirurg. Transac. vol. xiii. p. 436.

‡ London Medical Gazette, vol. vii. p. 677.

§ Medico-Chirurgical Review, July, 1827, p. 280. See also this Journal for April, 1828, p. 170. Also, Lancet, vol. xii. p. 604 and 760, and London Med. Gaz. vol. iv. p. 32.

‖ Glasgow Medical Journal, vol. i. p. 93. See also this Journal, vol. ii. p. 460, and vol. xv. p. 251.

gressively."* The late Dr. Bushe† has reported several successful cases of small cutaneous nævi treated in this way; but in the case which I have related at the commencement, he had completely failed. In his published cases he recommends a common cataract needle heated to whiteness; he afterwards employed a fine piece of steel, with a blunt point, and mounted on a handle. The great objection against these small cautery needles is, that they do not retain their temperature for a sufficient time; they lacerate rather than cauterize the tumour, and do not excite inflammation to any great extent around the immediate point at which they are introduced.

10*th. By Injection.*—So far as I am aware, Mr. Samuel Cooper first proposed this practice. It was first successfully employed by Mr. Lloyd.‡ The injection consisted of from three to six drops of nitric acid dissolved in a drachm of water; it was thrown into the tumour, by means of a syringe, through a minute puncture near its base. During the operation careful pressure was made in all directions round the tumour, to prevent the fluid from entering the general circulation. The next case on record, in which this practice was employed, was attended with an instantaneously fatal result.§

11*th. By the Seton.*—For this practice we are indebted to Mr. Faudington of Manchester.‖ It has also been employed with marked success by Mr. Macilwain, in cases of deep nævus, where no other mode of treatment could have been advantageously employed. It has also succeeded, under similar circumstances, in the hands of Mr. Carmichael,¶ M. Lallemand,** and in Dr. A. H. Stevens's case, which I have already reported. It does not appear to answer so well for the cutaneous nævi as for those that are situated in the tissues beneath the skin. In resorting to this practice the seton should be passed completely under the tumour, and not into its spongy texture; otherwise it ulcerates through the morbid mass before exciting inflammation sufficient to consolidate it. In the cases reported by Mr. Macilwain, as well as in that of Mr. Carmichael, several setons, consisting of silk threads, were passed in different directions under the swelling; in Dr. Stevens's case, a single seton only was employed; and in all of them the threads were allowed to remain until free suppuration was established, and the tumour itself had undergone a change of character; a process which, under different circumstances, may require for its completion from a few weeks to three or four months. The advantages of this practice are, that it is attended with little or no danger; that it may be employed in many cases where other means are inadmissible, and that no permanent deformity is left by it.

* Medico-Chirurg. Transac. vol. xviii. p. 193.

† New York Medico-Chirurgical Bulletin, No. 2.

‡ London Med. Gazette, vol. xix. p. 14, Oct. 1st, 1836.

§ Ibid. Dec. 30th, 1837.

‖ See Mr. Macilwain's paper in the Medico-Chirurg. Transac. vol. xviii. p. 189.

¶ See a notice of Mr. Carmichael's case in the Dublin Journal, vol. viii. p. 219.

** Observations Relatives à Divers Procédés Opératoires employés contre les Tumeurs Erectiles: republished from the Archives Générales de Medécine.

ART. III. *Chronic Cerebral Affection: long continued, intense headache: double consciousness: extraordinary memory of events: inefficacy of treatment: diagnosis doubtful.* By ELISHA BARTLETT, M. D., Professor of the Theory and Practice of Physic, and Pathological Anatomy in Dartmouth College.

THE following case has appeared to me to be one of sufficient importance to justify me in presenting it to the public. The report of it may possibly seem to the reader to be unnecessarily prolix and minute, but I did not see how it could well be made less so, without sacrificing that completeness, and fulness of detail, upon which the interest, and the value itself, of the case depends. The present would be a very proper place for some general remarks on the subject of chronic cerebral disease. There is no single department of pathology, which offers to the scientific inquirer problems so surrounded with difficulties, and yet so filled with interest as this, but as the report of the case occupies so much room, I shall simply present it to the reader, omitting, at least for the present, all note or comment, either upon the case itself or upon the general subject to which it belongs.

April 10th, 1838.—R. M——, the subject of this case, was 15 years old in October, 1837. She was born in England, and came to this country about seven years ago. She has a fair complexion, light hair, is considerably fleshy and fat, and has a pretty large, well developed head. She is good tempered, and is intelligent for a girl of her age and education. She enjoyed uniform and excellent health, till she was thirteen years old. She then menstruated, and at that time began to complain of *headache*, and of pain in the back and limbs. The pain in the back and limbs soon went off, but the headache continued. During the first year it was not constant, although she had more or less of it nearly every day. This pain gradually became more constant and more severe, and since the close of the first year, she has never for a single moment, so far as can be ascertained, been free from it. Until the expiration of the first year, she was able to work part of the time in a woollen mill, and a part of the time she was at school, although she was frequently obliged to leave both her work and her school on account of the severity of the headache. The seat of the pain has always been through the head, from the forehead to the occipital. She never feels it at the top or at the sides of the head. It never changes its seat; it never intermits. It has not done so for the last year. It is very much more severe at some times than at others. Generally, though not invariably, it grows worse as the day progresses.

There has been moderate intolerance of light and sound from the beginning. This is pretty regularly increased in degree with the increased severity of the pain. It is never, however, excessive. The vision has not

been much affected. It is rather feeble, but correct. On looking steadily at an object, it grows dim and indistinct. There is frequently some ringing in the ears. The sound oftenest heard is that of running water. Epistaxis has been pretty common for the last year. During the two past weeks, it has occurred every day, and has, some days, been repeated several times. It almost always occurs in the day time, oftenest in the latter part of the day, continues pretty freely five minutes or so, and is never attended or followed by any mitigation of the pain. Within a few weeks she has complained of some numbness of both feet and of both hands: that of the feet is greatest. This numbness comes on several times a day, remains fifteen or twenty minutes, and then goes off. Occasionally she feels a pricking sensation, especially in the hands. Once, some weeks ago, while walking across the floor, she fell.

The mind has been perfectly free, till within six months. She has become somewhat forgetful, but there has not been the slightest aberration. She is remarkably patient and quiet. There is no fretfulness, and no change of temper.

The appetite has been poor from the beginning. The quantity of nutriment which she has taken for the last year has been very small, and it still continues so. There is no emaciation. The bowels are regular, and are easily moved. The discharges are not very consistent, but sufficiently healthy in appearance. There is no flatulence, no acidity, no nausea. The tongue is, most of the time, moderately coated. Thirst is constant and pretty urgent. Nearly all the time there is a sense of chilliness over the body generally. Through the head, corresponding to the seat of the pain, she complains of a burning heat. The hands and feet are constantly cold. They are white and bloodless, looking like alabaster. The scalp feels hot to herself and moderately so to the hand. It is also, occasionally, in various parts tender to the touch. The face is usually flushed, and much more so at some times than at others. The pulse varies from 76 to 100, and is neither full nor hard. The urine, for some weeks last summer, was copious and limpid; since that time it has remained natural. A few weeks ago she had a short, dry cough, which was principally troublesome on account of the great increase of suffering which it occasioned in the head. It seemed to be of a nervous or spasmodic character, and ceased immediately on the administration of Prussic acid. It returned once, subsequently, and again subsided on giving the acid. Up to this time the respiration had not been affected.

She has always had very bad nights. She has distressing, fatiguing dreams: and running through them all, and through her disturbed and unrefreshing slumbers, there is an ever present consciousness of the unremitting and intolerable headache. The vulture never sleeps and never lets go its hold. She lies with one hand constantly to her forehead, and very frequently says in a suppressed, moaning tone, "O dear! my head!" She

speaks in a low voice—usually in a whisper. There is frequent deep sighing, and occasional yawning.

Until within a month she has been able to sit up and to keep about house, during the forenoon. She is now wholly confined to the bed, and is unable to hold up her head without great increase of the pain. She says her head feels very heavy.

Another strong feature in the history of this case, thus far, consisted in the effect of treatment. This was wholly unavailing. It never mitigated the severity of a single symptom. More than this, almost invariably the effect of treatment was to render her worse. The details of the treatment it is unnecessary for me to describe. The depleting, revulsive, sedative and anodyne medications were, one after another, and variously combined, resorted to, and all to no purpose. General and local bloodletting, emetics, active cathartics, blisters, permanent drains in the neck, the cold dash, and mercurials carried to ptyalism, were all made use of. Preparations of iron, quinine, arsenic, opium and other narcotics, were tried in their turns with the same unsatisfactory results.

During the first year and a half, or so, of the disease, I had felt very confident that the case was one of nervous headache merely; that there was functional disturbance,—intense, morbid, painful erethism of the brain, but no structural or organic lesion. Resting in this diagnosis, I had thought, that the patient would finally recover. But the obstinate persistence of all the symptoms, and their gradual increase in severity, notwithstanding the active and various treatment that had been opposed to them, induced me to doubt the correctness of my opinion. I begun to suspect, very strongly, the existence of some fixed, organic lesion, in the central portion of the brain, or in the cerebellum. The age of the patient led me to think that the disease might consist of a tubercular tumour. But if this were the case, there should have been, also, tubercular matter deposited in the lungs; and of such desposition there was no evidence depending either upon local signs or general symptoms. There were no indications, physical or rational, of phthisis. The resonance under both clavicles was good, and the vesicular murmur was soft. There was no cough, no expectoration, no pain in the chest, no hectic, no emaciation.

I shall now continue the history of the case from the date of my first records, April 10, 1838, to the present time. For this account I rely upon notes taken, not at every visit, but from time to time, as changes manifested themselves in the condition of the patient.

April 25th.—There has been little or no alteration in the symptoms for the last fortnight. The pulse to-day is 80, soft and feeble. The numbness of the feet is now nearly constant, and when the numbness goes off it is succeeded by a headache. Last night, as usual, she was dreaming of distressing pain in the head.

May 24th.—She is apparently more feeble. She now has, several times a

day, short chills or tremors, consisting of a general and pretty violent shaking of the whole body. They are not accompanied by any increased feeling of coldness. She has, also, frequently during the day, paroxysms, lasting half an hour or so, of rapid breathing, or panting. I counted 72 respirations in a minute. There is a quick, quivering motion of the eyelids and lips. There is occasionally, for a few minutes, loss of consciousness, or something like it. She is awake, but does not know where she is. The thirst is still very great. The tongue is clean, bright red, sore, and frequently bleeds. The bowels are rather sluggish. The right leg is somewhat more numb and painful than the left. Tears are now and then forced from her eyes by the excessive severity of the headache. For some weeks past she has not kept her hand to her forehead: she says she is too weak to do so. Pulse, 72.

May 26th.—The respiration is now quiet and regular. She does not speak, except in the faintest possible whisper, and very reluctantly then. She says that the act of speaking hurts her head—that it feels as though something struck it, like a hammer. The epistaxis continues, and occurs, usually, just at night.

June 9th.—For several days past she has not spoken at all. The only voluntary motion which she makes, consists of a slight movement of the fore finger of one hand, when she wishes for a drink. She does not open her eyelids. When the eyeballs are exposed, they are seen very forcibly rolled up in the sockets, constantly agitated with a rapid tremulous motion. She is unable either to move or to support her head. The head is warm; the hands and feet still pale, cold, and moist. The thirst is still urgent; the urine continues free. She had her menses about a month ago. There has been less epistaxis for several days. She hears very quick, as is evident from her noticing conversation that is carried on in the room. *She does not notice any thing said directly to herself*, but very frequently smiles at remarks directed to some one else. Her mother thinks that she cannot see.

She was visited and examined a few days since by Mrs. T. a somnambulist. Mrs. T. says that the tongue and throat of the patient are sore, for which she must use alum and marsh rosemary: that the head is diseased, but not primarily; and that the original disease is a kind of a cancer,—but not a cancer—situated between the stomach and lungs. She prescribed, further, shaving and blistering the scalp, blisters to the ankles, friction, from the hips downwards, and bathing with brandy.

June 30th.—The patient remains in nearly the same state, except that for about three weeks she has had, pretty regularly every day, and several times a day, the severe rigors or attacks of general shivering. She, also, frequently clenches her hands suddenly together, and throws them violently, with a motion that seems to be half voluntary and half spasmodic, over her

head upon the pillow. This motion is accompanied with an expression in the countenance of great suffering. The hands and arms are invariably suffered by the patient to remain in the position above the head: she never removes them herself. The bowels have occasionally required moving with gentle medicine.

July 12th.—On the 4th July, the patient was found in the morning talking, in a low whisper, to herself. She had not spoken a syllable before for a month. She answered readily, in the same low tone, when spoken to. She said she did not know why she could not talk during the month. She said the pain in the head *was not quite so bad.* She now and then laughs very loudly and heartily without any apparent cause. The violent motion of the arms and hands, already noticed, has become more general, and she throws herself with great force from one side of the bed to the other. These are most common in the afternoon. The shivering fits have occurred most frequently in the forenoon.

It has become perfectly evident, since the patient began to talk, that there are, so far as the brain and its mental manifestations are concerned, two very distinct and different states. One may be called the natural and the other the preternatural condition. During the first she appears very much as she has during the course of the disease. She is then perfectly herself. She lies very quietly upon her back, occasionally sighing, with a quick, half spasmodic inspiration, indicative of pain, and occasionally affected with a short transitory rigor or shudder. Her countenance is composed and sad, but she makes no complaint, unless it is to say, as she frequently does, "*O, my head!*" She answers questions readily, describes all her sensations, and is perfectly conscious of every thing about her. During the preternatural condition, the whole scene is changed, and various phenomena of a character somewhat singular are exhibited. It is during this state, that the fits of throwing herself from one part of the bed to the other occur. It is also during these fits only that she talks, at other times never speaking except to answer a question, or to state somewant, or to give utterance to the sense of pain. It was observed, by her mother, that when she commenced talking on the morning of the 4th, her conversation was wholly upon subjects with which she was familiar before she left England. It should be stated, that some peculiarities about her memory had been noticed by her mother, for several weeks. She was first confined to her bed, up stairs, and she had subsequently been removed to a lower room. She never could recollect *how* or *when* she came down stairs. On asking her mother, one day, how long her daughter had been confined to her bed, she referred me to the patient herself, and added, that she could tell me how many weeks she had been sick and *how many visits I had made to her.* I questioned her as to the latter point. She answered, immediately,

"*this is the fifty-second.*" On referring to my books, I found forty-eight visits charged, and I had seen her a few times, I cannot say positively how many, without making any charge. I then asked her when Mrs. B. called to see her: she said, "*four weeks ago to-day,*" which was true. The fits of tossing herself violently about, of which I have spoken, continued with but little interruption, for several hours, the day before yesterday. The next day, they commenced at half past five, in the afternoon, and continued five hours. They were present three or four hours in the forenoon of to-day, and they again occurred in the afternoon. During the presence of these paroxysms, day before yesterday, she commenced talking about *the scenes of her early life.* She narrated, minutely, circumstantially, and correctly, a great many occurrences of her earliest childhood. Her mother said she had told almost every thing that happened to her while a child. For instance, *at the age of two years*, her father bought for her a pair of small ear-rings. After wearing them for a short time, they were missing from her ears. She had been at play alone in a yard, or field, near the house, and the parents never knew whether the child had lost the rings from her ears, or whether some one had stolen them. Her father took her in his arms, and carried her into a certain part of the field, which he distinctly recollects, to endeavour to find them. Yesterday, she related, and repeated, again and again, all the circumstances connected with this event. She said that a person took the rings from her ears—that her father took her into the field to seek them, and that when her mother carried her to the doctor to have her ears bored, she cried, like a child, which she would not do again. She also said, that once when her mother was sick, she herself was rocking the cradle, that her grandmother came in and told her she need not rock it any more, but that she might go to her house. She said she went and they had light puddings for dinner. At this time she was three and a half years old. All these circumstances are recollected by one or by both her parents, and there is no doubt as to the precise dates of their occurrence. I give them as illustrative of the subjects and tenor of her conversation at this time. She had a great deal to say about Dr. Webster, their old family physician, and about all the persons with whom she was most familiar, while a young child, but whom she had not seen, and whose names she has rarely heard mentioned for eight or nine years. She says but little of recent events, with a single exception. At different times during her sickness she has been visited by two gentlemen who have attempted to produce in her that state of the system, constituting artificial somnambulism. She has also been examined and prescribed for by two other individuals—females—themselves somnambulists. A fifth person, a physician—has a few times seen her, and once prescribed for her, cowhage. These five individuals are frequent subjects of her remarks. She gives them all the title of "*doctor,*" and whenever she speaks of them her whole manner becomes animated and even boisterous.

She laughs with great glee, claps her hands, directs her eyes towards the ceiling, and talks in a loud tone of voice. She frequently exclaims, "*There they are! O, how mad they will be! O, how silly they look! They can't get in! I have locked them out!*" And so on. She always speaks of her physician with great kindness and confidence. Every thing that is right she attributes to him; every thing that is wrong to some one else. Speaking to some one of her old associates in England, she said, "*Give the doctor a good bed, it's no matter where I sleep.*"

During this state, the sense of pain in the head still seems to be present. In her most violent motions, she often clasps her head with both hands; and, for a moment, buries it in the pillows or in the bed. This afternoon, during my visit, she said, "*Jane, don't let mother know how my head aches!*" frequently repeating, also, "*O this poor head! O my poor head!*" At these times, she pays no regard to things or persons about her. Once, when the paroxysm went off, and she had returned to her natural state, she said, "*Where have I been?*" She is then exhausted, and feels sore. She retains no recollection of the occurrences of the paroxysm.

July 16th.—Last Thursday or Friday, the paroxysm commenced about fifteen minutes past ten o'clock in the evening, and continued till towards night, the next day. Her first question, on the return of natural consciousness, was, "*Has it struck eleven?*" Another paroxysm commenced on Saturday evening, and with some very brief, fugitive glimpses of her natural state, continued through Sunday, and was still present at my visit, this forenoon, Monday. All through yesterday, she talked as though the day was Saturday—spoke frequently about the children going to Church "*to-morrow*," &c. This morning she still had the same consciousness, in regard to time, although, in answer to a question, she said to-day was Monday, because her father had told her so. The state of the patient's mind, during this preternatural condition, has changed, in one respect, since yesterday. She is now perfectly conscious of surrounding things—recognises persons about her—talks with them—answers questions, &c.; but the tone of her voice is still bad, and her manner violent, animated and wild. Her eyes are open, and the balls not rolled up in the sockets, excepting at intervals, and then only for a moment. At times, during these periods, she amuses herself with her books and letters; then she will call for her slate and pencil. During my visit to-day, she suddenly exclaimed, "*I know how to cypher! I know how to cypher! I can tell how many minutes there are in a day! I can tell how many seconds there are in a day!*" She had neither slate nor pencil; but she turned her face downward towards the bed, smoothed the sheet with her right hand, and, for a few seconds, moved her fingers rapidly, as though she was occupied with a pencil in doing a sum. She then gave correctly the number of minutes and of seconds contained in twenty-four hours. Whether she gave these results from memory, or whether she actually went through the calculations at the time, I have no means of knowing. There were manifested, at different

times, various other phenomena, which seemed to show extraordinary quickness and acuteness of some of the senses. The *transitions* from one state to another are becoming more frequent, and they are always *instantaneous;* in the twinkling of an eye, quick as a flash of lightning, the tone of her voice, the expression of her countenance, and her whole aspect and manner are changed. She has nearly ceased talking of old affairs. The physical condition of the patient remains essentially the same.

August 20th.—For the last month, she has, in some respects, been slowly improving. She is still subject to the *two states*, which have already been described. Her loud and violent manner has, however, almost wholly ceased. These periods occur now, most frequently, in the night. For the most part, she is, during the day, quiet, and has her mind fully and perfectly. She has only a confused and very indistinct remembrance of the occurrences of July. She remembers imperfectly some things, when they are told to her, but says they all seem like dreams. She is able to sit up during most of the day. She has a few times rode and walked out of doors. Within a few days, she has had her menses, after an interval of three months. Her appetite is almost entirely wanting, and she takes but a very small quantity of food. The headache still continues, although she says it is *not quite so bad.*

October 18th.—After August 20th, I was some weeks absent from home, and did not see the patient. Nearly two months ago, she was carried to the sea coast, where she remained only ten days. Ever since that time, she has been in a very bad state. The *two conditions* still continue, and she is constantly and frequently passing from one to the other. Some days, during her *crazy turns*, as her mother calls them, she is noisy, tossing herself about, and screaming. When these are absent, she is, as she always has been, still, quiet, perfectly self-possessed, conscious of her situation, with a sad, distressed expression of countenance. For some time past, there has been exquisite tenderness of the scalp. She starts, shudders, and screams at the slightest touch. She avoids touching her head with her own hands. In the severest paroxysms of pain, she clenches her hands, grates her teeth, and literally shudders with suffering; but she does not put her hands to her head. The *headache is just as bad as it ever was;* there is no remission, no mitigation of its intolerable severity. During the preternatural state, she talks for hours together about her head, and about not letting anybody, and especially her mother, know how bad the pain is. Within a few days, during my visits, I have heard her say—"*O what pain! what pain! I don't want mother to know—I never told anybody; no, and I never shall—my head is on fire—my eyes are on fire—I can't hide it much longer—I try to hide it from my poor mother—I try to get up and be cheerful; but O what agony, agony, agony!—Nobody knows; I shall never tell anybody.*" At these times, she seems to be sensible to surrounding objects; but she very rarely takes notice of any thing which is addressed directly to herself.

November 12th.—The patient is still in nearly the same state. There is no relief to the headache. She said to me to-day. it has never been so bad as it has for a few days. She says that she does not mind the external soreness so much as she did, because the headache is so severe. I found her to-day sitting up, in a rocking-chair, with a book in her hand. She had read between sixty and seventy pages. She said she could remember most of her reading, as well as she ever could. Her cheeks were of a bright rosy red. She said that her head felt hot; but that her whole body, inside and out, was chilly. She has often complained of this. She takes but very little food. She has pretty often gone forty-eight hours without taking a particle of food or drink. Her mother says that she does not take, on an average, for weeks together, more than a single cracker daily. She drinks lemonade and coffee. Her pulse is about 80, feeble and soft. Her bowels are regular, and her tongue clean. The numbness of the feet is almost constant. For the last week, she has been, most of the time, conscious, and free from her wild paroxysms.

January 20th, 1839.—No essential change has taken place since the last entry. For a few weeks past, her talking has consisted mostly of expressions of resignation, religious hope in the future, recitations of hymns, and quotations from scripture. While I was sitting by her bed, a week ago, she said—"My suffering increases every day. O, mother, don't trouble yourself about me. When I am gone, you have plenty more. No creature can tell the suffering that I have had for three years and three months—O no creature can tell. I will soon go to my Heavenly home, where the wicked cease from troubling and the weary are at rest. Heaven will repay all that I have suffered here. As St. Paul says—When this earthly tabernacle is dissolved, I have a house not made with hands, eternal in the Heavens."—She moans almost constantly; and at times shrieks with the pain. She suffers, also, exceedingly from the exquisite sensibility of the scalp. To-day, her father, while engaged in writing the names of his children in the Bible, miscalled the date of the birth of one of them. He was immediately corrected by the patient. After my visit, she said, "I suppose they won't believe it, but I remember distinctly when John was born." She was then seventeen months old. The quantity of her food is still exceedingly small. More than once, she has passed forty eight hours without taking a particle of solid nutriment, or a drop of drink. Since November, 1838, she has had three very violent attacks of the convulsive cough. They did not yield to the Prussic acid, but were removed in a few days by free doses of the extract of belladonna. The distinct mental states still continue, with their quick and frequent transitions from one to the other. Most of the time, she is in the preternatural state, or, as her mother says, she is *lost*.

February 20th.—For the last three weeks, the patient has been slowly improving. The *headache is less violent*, but not removed; and there is less

tenderness of the scalp. She has been constantly conscious. She gets some sleep nearly every night, and has been able, for the last fortnight, to sit up several hours, nearly every day. There is less flushing of the face, and less coldness of the hands and feet. The sense of heat in the head still continues, and although she takes food rather more freely, it is not because she has any appetite for it. I asked her, a few days ago, if she was confident about her recollection of the time when her brother John was born. She smiled, and answered, that she remembered it as well as though it happened yesterday. She said that she had no remembrance of this event before her present sickness. Most of the events of her sickness, *except in relation to the lapse of time*, are very indistinctly remembered.

Lowell, Mass., 25th February, 1839.

ART. IV. *Case of Cancerous Ulceration of the Œsophagus opening into the Trachea.* By MORRILL WYMAN, M. D., Cambridge, Mass.

R. B. came under my observation, July 10th, 1838. Patient tall, large frame, much emaciated; ætat. 70. Reports he has not been in good health for eight or ten years. During several months past, has lost flesh and strength. Three months since, while at dinner, first perceived difficulty in deglutition. The morsel, a piece of meat, was arrested in the œsophagus, and he was obliged to return it to the mouth by hawking. From that time to the present, deglutition has become more and more difficult, forbidding the use of any other than liquid or soft solid food. He suffers no pain in the œsophagus, except an occasional burning sensation. Feels assured that his food always passes down to the same point, midway of the sternum, before it meets with any obstruction, or is returned to the mouth. When it is returned, it is not by any exertion on the part of the patient, but by an inverted action of the œsophagus.

Œsophagus examined by means of an ivory ball-probang, one half an inch in diameter. Instrument passed readily to seat of stricture, ten or twelve inches from the teeth, but there stopped suddenly without being in the least engaged in it. A similar ball, three-eighths inch in diameter, became slightly engaged, but with moderate force would not pass; a third, one-fourth inch in diameter, passed readily into the stomach. Stricture about eight inches from pharynx, one and a half inches in length; passage small and apparently rough from projecting masses along its sides.

July 22d.—Called to patient, who informs me he was able to swallow as usual, till thirty-six hours ago, since that time has swallowed no food whatever;

is faint and exhausted. Says he is very hungry; takes food frequently, but in two or three minutes it returns again to his mouth—"shall surely starve, if not soon relieved." The smallest ball-probang passed through stricture; still patient could neither eat nor drink. After some difficulty, a very small stomach tube was introduced, and a half pint of milk porridge thrown in by means of a pump; in four hours, a pint more of the liquid was administered in the same way.

23*d*.—Reports he was much revived by food; in evening was able to swallow again. This morning, has taken breakfast (ginger-bread made soft in tea,) with much more ease than usual. At noon, ventured upon a small piece of pork, which also passed. Still very weak.

30*th*.—Since last date, deglutition has improved gradually; none of his ordinary food has been returned, but is careful that it be either soft or in very small pieces. Strength increasing.

During latter part of summer and fall, patient has been employed about his house as usual, doing such things as his strength would allow. About once in ten days, has had ball-probang, one-fourth inch in diameter, passed through stricture. This has never been done, however, unless he has been obliged to submit to it by a fear of complete closure of the œsophagus, and consequent starvation. At each time the difficulty in passing the probang was increased, not only by the narrowed passage, but also by the difficulty experienced in finding it. The instrument required a certain direction, or it would slip into a little excavation at the side of the true passage, through which there was, apparently, no opening into the œsophagus below the stricture.

October 17*th*.—On withdrawing the probang, it was found besmeared with a brownish coloured, slimy, very fetid matter. During two or three days following, skin hot and dry; tongue coated; pulse accelerated. These symptoms soon passed off, and he recovered his usual state of health, with an ease of deglutition greater than he had enjoyed since the July previous.

This state continued till the last week in December, but with no improvement in strength or flesh. He now began to have cough, with some dyspnœa. The cough was increased on taking food, which he said produced "a terrible burning" behind the upper part of sternum. Food frequently rejected, even when liquid, after remaining a few minutes in the œsophagus. During the following week, became more sick. Thirsty; skin hot and dry. Pulse, 108; tongue coated; dry. Weaker, and, if possible, more emaciated than before.

January 9*th*.—Took to his bed on account of extreme debility. Cough increased; expectoration principally mucus, with some of the liquid he has attempted to swallow. Chest resonant on percussion; coarse mucous râles in both backs; sound of respiration distinct. Pulse, 110, small. Craves cold water only; thirst great. Two liquid dejections daily, not large. From this date, cough more distressing. Difficulty of deglutition not increased,

although burning sensation behind sternum is still complained of. The pulse became more rapid till the evening of the 12th, when it was at 120 per minute. During the night of the 12th, extremely restless, and on the morning following, after being turned in bed by his attendant, immediately expired.

The body was examined thirty hours after death, in the presence of my father, Dr. Rufus Wyman, and several other medical gentlemen. Externally, body extremely emaciated; muscles very distinct; chest large; abdomen very much sunken. Tongue, pharynx, œsophagus, stomach, and the contents of the chest removed together. Pharynx appeared healthy throughout, as did the tongue. Epiglottis large, healthy. Nothing abnormal discovered in removing the œsophagus until its connections were destroyed as far as the fourth dorsal vertebra, where such strong adhesions were found between it and the periosteum, covering that bone, that they could be separated by the knife only; adhesions hard and grating under the edge of this instrument. Œsophagus of the usual size at its junction with the pharynx: below this, larger than usual till near the level of the fourth dorsal vertebra, where its sides became thickened and calibre diminished by a rough tuberculated surface to the diameter of one-eighth of an inch. This contracted portion extended about two inches of the length of the canal. This part in a state of ulceration with fetid matter adherent. Two ulcerations were observed deeper than the others, and, on gently inserting a probe into one of them, it passed freely into the trachea. The trachea and bronchi being then laid open, another ulceration admitting a full sized dressing probe was seen in the posterior membranous part of the trachea exactly at its bifurcation. This, too, communicated with the œsophagus at its thickened, ulcerated part. The trachea and bronchi near the openings, showed evident marks of inflammation; mucous membrane red, roughened, and in some parts a purulent secretion upon its surface. On the tracheal side, the openings were smooth, with the edges thin and well defined; on the opposite side rough, with ulcerations leading directly down to them. Some adhesions of long standing existed between the lungs and pleura costalis, but otherwise these organs were remarkably healthy. Stomach carefully examined at its cardiac and pyloric orifices, but no thickening or schirrous appearance observed.

Cambridge, Mass., February, 1839.

ART. V. *On the Remedial Powers of the Persesquinitrate of Iron.* By T. C. ADAM, M. D., of Lenawee county, Michigan.

FOR upwards of five years we have been in the habit of prescribing, almost daily, the *liquor ferri persesquinitratis*, a remedial agent first discovered and introduced to notice, we believe, by Wm. Kerr, Esq.; though Dr. Graves, in a clinical lecture, quoted in No. XXXV. of this Journal, ascribes this merit to Dr. Christison, of Edinburgh. We have derived from its use very remarkable assistance in the treatment of several diseases, especially diarrhœa, and other affections of mucous membranes accompanied by discharges; and as its virtues seem not to be so generally known in this country, as they deserve to be, we have been induced to lay before our brethren a few observations illustrative of its value as a therapeutic agent.

The formula for the preparation of this remedy, as given by Mr. Kerr, will be found in the No. of this Journal for May, 1832, p. 235.

Our first trials of this remedy were in cases of *diarrhœa*, and from its employment we have derived highly beneficial results. We must not be misunderstood to mean that this astringent is applicable to every case of diarrhœa, or that it has been found indiscriminately useful. We have not thought proper to administer it in every variety of this complaint; but of its beneficial effects in such cases as the following, we can speak with much confidence.

In January, 1832, a child of six months of age became our patient, on account of a diarrhœa, nearly habitual, but aggravated by dentition. Immediate relief was obtained by means of a free incision through the gums, down to the tooth or teeth. The fretfulness ceased, and the diarrhœa subsided to its usual degree. Two drops of the nitrate were then ordered three times a day, and to be continued for at least ten days after the cessation of the diarrhœa. The effects of this treatment were a cessation of the habitual diarrhœa for at least eighteen months, and an improvement in ruddiness of complexion, and in temper or feelings of comfort.

In April, 1832, a lady applied for advice, probably in consequence of the threatened invasion of cholera. Her bowels were very readily moved, generally tender or uneasy; she was languid and weak, pale and emaciated, and was much troubled with cold feet and profuse perspirations. She had been subject to diarrhœa from the slightest causes for several years. Intelligence of an unpleasant nature would almost invariably produce it. For her I ordered frictions with salt-water to the surface, and the nitrate, in doses of 15 to 25 drops, four times a day. After using the remedy a few days, this lady commonly improved; but from giving up its use too soon, the relief was not of long continuance.

We have generally ordered the medicine to be continued for at least ten days

after the disease disappears; and have continued its use as long as four months after every threatening of diarrhœa was gone. The diarrhœa never returned for several months, if the medicine was faithfully taken for ten days or more; but, as in the case of this lady, we have had relapses in those who neglected the usual order so soon as amendment took place. This lady's case closely resembles that alluded to by Dr. Graves in No. XXXV. of this Journal. We may remark in passing, that Dr. Graves prescribes the nitrate in much smaller doses than we have been accustomed to do. We prescribe ten drops at a dose, two, three, or four times a day, frequently twenty-five; whereas Dr. Graves gives seven, gradually increased to fifteen drops in the course of the day; and we think we have obtained a more rapid amendment, from the larger dose.

A lady, about 30 years of age, had had diarrhœa for ten months previously to her applying to me. It commenced as soon as she got up in the morning, and continued all forenoon; in the afternoon it subsided almost entirely. It was accompanied with but little pain; but there was considerable thirst. During the ten months she had tried a variety of proposed remedies in vain. She has never been free from her complaint except for about two weeks, after having taken some purgative pills, which operated very powerfully. In constitution and symptoms, this case was exactly parallel with those referred to by Dr. Graves, in the XXXVth No. of this Journal. She took ten drops of the liq. persequinitr. ferri, gradually increased to twenty drops, three times a day. In four days she was nearly quite free from the diarrhœa; and in two weeks felt stronger and in better health than for ten months previously. For about a year, as long as we knew her history, she had no return of diarrhœa, or bad health.

A gentleman, about 30 years of age, had recently moved to Michigan, when he applied to me on account of diarrhœa, accompanied with considerable uneasiness and griping pains. He attributed these complaints to the changes he had been obliged to make in his diet, especially to eating more pork than usual with him, and partly to the water he had to drink. I could ascertain no other causes in operation, and thought his own etiological theory probably the true one. To lessen the irritability of the mucous membrane, and at the same time restrain the discharges, I could think of no medicine more likely to be effectual, than the nitrate of iron. Fifteen drops were taken three times a day in water, and on the third day he reported himself much relieved from the griping pains and uneasiness in abdomen. By continuing the use of this remedy for not more than ten days, this gentleman obtained complete relief from his "new country" complaints, which had existed upwards of six weeks before the nitrate was prescribed. From the effects of the remedy in this case, and from some similar observations in other cases, we were inclined to believe that this nitrate, like some other metallic nitrates, had the property of subduing morbid sensibility of the

organic nerves. In the paper of Dr. Kerr, will be found a case remarkably confirmatory of this theory.

Since we commenced the use of the nitrate of iron, there has seldom been any long interval between our cases of children who were habitually subject to oft-recurring attacks of diarrhœa, and who occasionally had attacks of what mothers call worm fever—infantile remittent. In such cases diarrhœa not unfrequently alternates with constipation. It is seldom such cases are put under medical treatment, except when the remittent fever or the diarrhœa is more than usually severe. We have generally had children of this description put under our charge when they were labouring under fever. With doses of calomel and rhubarb, followed by oil in the morning, repeated every second night, and conjoined with a bland, easily-digested diet, and with attention to ablution, quietude, and warm clothing, we have usually succeeded in alleviating or curing the fever. We have, then, in a majority of cases, recommended that the child should, for some weeks, have a bland nutritious diet, consisting chiefly of well-boiled farinaceous articles, and make use of the nitrate of iron regularly. In several instances we have failed to procure a steady employment of this medicine for a sufficient length of time; in some, again, the parents have continued it, of their own accord, for upwards of two months; and in all the cases in which it was regularly administered for a period of three weeks or more, we do not know that such children were again attacked with fits of diarrhœa, or suffered from infantile fever. Of several we can affirm *confidently*, that they were altered subjects; formerly pale, exsanguine, peevish, delicate, and requiring much anxious attention, they have become hale and fresh-coloured, strong, playful, and easily taken care of.

Such are the varieties of diarrhœa for which we have most frequently prescribed the liq. persesquinitr. ferri. They are all of a chronic nature, and the temperament of both the younger and the adult patients has had a large admixture of the nervous. This we incline to attribute to the irritable condition of the mucous membrane of the intestinal tube, and to the debilitating effects of frequent diarrhœa. Numerous cases, similar to those given, might be produced from our case-book; but our purpose is, solely to indicate clearly the kind of cases in which we have employed this medicine most frequently, and in which we have found it without a rival. For this purpose we have given, we hope, sufficient narration, and avoided "vain repetitions." We will now add a few explanatory observations.

The *dose* which we employ in adult cases is, as we have already incidentally remarked, much larger than that which Dr. Graves is reported to employ. We seldom order less than fifteen drops at the commencement; and after a few days of employment of the remedy we increase the quantity to twenty, twenty-five, and thirty drops at a dose. For children we proportion the dose according to the age. We have only in one case that we recollect of, that of a Mrs. J. Dunlop, had occasion to reduce the quan-

tity. In this case, which, by the bye, was one of recent, not habitual diarrhœa, the usual dose did not produce any alleviation of the symptoms, but seemed rather to increase the griping pains; we, therefore, reduced the quantity to seven drops, and in less than twenty-four hours, the amendment was very marked. We have administered, and we have taken as much as a hundred drops; but, lately, where the usual quantity does not produce relief in two or three days, we prefer adding a little laudanum, or employing some other auxiliary, to the employment of more than thirty-five drops. At the same time, we have never experienced any bad effects from so large a dose as even a small teaspoonful, which we have frequently known to be taken three and four times a day.

The *time* during which the nitrate will keep good, that is, clear and transparent, varies considerably. Dr. Graves says about a week—some of my acquaintances and correspondents say three and four weeks, while I myself have never had any become turbid in less than five or six weeks, and generally I have it quite transparent for two months or upwards. I have also used it turbid without any sensible diminution of its astringent effects. Mr. Kerr, however, thinks that when it has become turbid, it is not so powerful. It is only in a few instances that we have employed it after this change.

In cases such as we have above described—cases of habitual diarrhœa, from birth perhaps, in children, and in cases in which there seems to exist an excess of irritability in the digestive tube—we know of no medicine which produces a more beneficial, immediate effect; and certainly, in its power of preventing similar attacks in future, this remedy is without any rival, so far as our experience extends. In cases of children, we have found its long-continued employment produce the most satisfactory results.

We have endeavoured to guard against any misconception of our ideas as to the cases or morbid condition to which our remedy is particularly applicable. We meet with chronic diarrhœa in two forms—persistent and what may be called intercurrent. The former is generally the consequence of a severe acute attack; by the latter, we mean to designate such cases of this disease as consist in a tendency or predisposition, or in the frequent occurrence of slight attacks of an acute kind, the usual state being more or less normal, or rather inclination to constipation. In the majority of cases of both kinds, the proximate cause, as the pathological condition has been called, undoubtedly consists, not so much in the application of foreign irritating matters, or on fæcal accumulations or morbid secretions, or on an undefined debility or relaxation of the mucous membrane, or on congestion or inflammation, so much as on an excess in the sensibility of the organic nerves which supply the digestive tube. It is not for *chronic diarrhœa*—a name for a symptom not a specific condition, that we prescribe this chalybeate astringent and sedative; but when, by investigation, we have satisfied ourselves that the diarrhœa is dependent on the above named condition, we

then employ this remedy in preference to opiates, or any other anti-diarrhœal medicaments.

Having thus laboured to indicate, with precision, those forms of disease in which we have derived from the use of the *liq. persesquinitr. ferri* the most satisfactory and beneficial results, we will now briefly notice a few additional forms of disease, in which we can speak favourably of its remedial effects, though not with the confidence we feel as to our previous observations.

In *Leucorrhœa*, we have employed the nitrate of iron with excellent success. But to procure benefit, we are careful in the selection of proper cases. These we think are such as seem chiefly dependent on a laxity of fibre, or on an over-secretion without inflammatory action. The persons in whom we meet with this kind of leucorrhœa, are generally pale, exsanguine, feeble, languid. We would not administer the nitrate where there was reason to suspect any disease of the uterus. But in the former kind of cases, we have employed it very successfully, using it internally, generally, and always topically, in injection. We add to four ounces of water such a quantity of the nitrate of iron as will produce in the vagina a gentle degree of heat or smarting. The internal use is prescribed where it is probable that the system by this means may be so roborated as to aid in the cure of the local disease. Almost all the preparations of iron are useful in such cases, and we think this not inferior to any in this respect.

In several cases of *Menorrhagia*, we have found this astringent and tonic of much service. We think it may be preferred, in cases accompanied with anemia, debility, and relaxed fibre, to any astringent in common use. We know of none equal, save a mixture, in equal proportions, of the sulphates of alumina and iron.

We have made trial of the remedial power of this medicine in such cases of almost all the diseases in which astringents are usually prescribed as we thought the most appropriate. We do not know of any case in which the nitrate enjoys a marked superiority to the common astringents; but judging from our experience, we presume it will be found a convenient and useful addition to the list of such remedies.

Dr. M. A. Patterson, of Tecumseh, informs me that he has found the nitrate of much use in the treatment of *aphthous sores*, or what is vulgarly called "canker." Our experience, though small, confirms the utility of this application of the medicine.

A gentleman, in whose house a bottle of this remedy was at a time when he had the toothache, applied a few drops *suâ sponte*, and obtained relief. May the nitrate of iron not possess a sedative or anodyne effect like the nitrates of silver, bismuth, &c.?

In fine, it may be mentioned as no small recommendation of the preparation, that it is cheap and easily procurable, and as each practitioner can prepare his own, it may be depended upon as uniform and unadulterated in

any important emergency. Those who have *felt* the deficiency, in purity and uniformity, of many of our remedial agents, will account this as not the smallest of its recommendatory qualities.

ART. VI. *Remarkable Case of Partial Sweating.* By SAMUEL S. MARCY, M. D., of Cold Spring, N. J.

THE subject of the following case, John Fallopius, ætat. 45, of sanguine temperament and of strictly temperate habits, has never suffered a day's sickness, with the exception of the ague and fever, and is in every respect a healthy, athletic man. From the year 1823 to '30, he was attacked with every variety of ague and fever, from the slightest chill perceptible, to the most violent ague possible, embracing the tertian, quartan, quotidian, and double quotidian type; and much of the time accompanied with excessive night sweats, equal to a Thompsonian sweat. Now, and for the last six years, has been free from that or any other disease, but is subject to profuse perspiration on taking much exercise, perspiration greatly disproportionate to the exercise or labour; while in a recumbent posture, the perspiration is confined to the upper half of the body and extremities; the opposite, or under side perfectly void of any moisture; temperature natural; change his position to the opposite side, and in a short time perspiration subsides on the side he is laying upon, and commences on the upper side again, and so on as often as he chooses to change his position. A line of perspiration would be correctly marked by a line drawn from the centre of the frontal bone to the pubes, including the extremities. The patient has often amused himself and friends, by noticing his one-sided sweating propensity on changing his position from side to side. While in an erect position, the perspiration was uniformly diffused over the whole surface. During the past extremely warm summer, his eccentric perspirability continues even in the erect position, and he continues to amuse his friends by exhibiting one side of the face covered with pearly drops of perspiration, while the opposite side is entirely free from any moisture. Since it showed itself in the erect position, it is confined to the left side exclusively, and so continues.

I submit the facts to the profession as I have often witnessed them, confident that there is no deception in the case, leaving them to give the why and wherefore. I cannot give a reason that will satisfy myself.

Cold Spring, Cape May, Aug. 15th, 1837.

ART. VII. *Case of Epilepsy.* By CHARLES A. PORTER, M.D., of New York.

IN the number of this Journal for November, 1838, there are given the results of M. E. Esquirol, in the treatment, cure, &c. of Epilepsy. Our experience so well accords with those results, that we are induced to report the following case recently treated.

February 7th, 1838.—I was requested to visit Miss D. of this city, ætat. 17, who has been subject to fits for three years: produced at first by anxiety of mind. In her infancy she was sickly. But since she was attacked by these fits, her health has been excellent. There is considerable regularity in their recurrence every fifth day. Her mother remarks that such is particularly the case when there is a new moon. After this, and especially at the full of the moon, there is an interval of seven and more days. On a careful examination we find heat of head slightly abnormal: extremities cool. Temperament nervo-lymphatic. Menses regular. At their commencement and cessation, she has a fit.

Appetite always good, craving fat, hearty food; free from pain in the epigastric region, and indeed over the entire abdomen. She has been indulged in her desire for food. No regard, as I am informed, has been paid to diet by her medical attendants, of whom there have been several; one a homœopath. Pulse so small, that it is with difficulty it can be felt, and preternaturally frequent. The tongue denotes gastric irritation: papilla red, shining through a white fur. I directed a mild, unirritating diet, as mush and milk; abstinence from tea and coffee; the frequent and repeated use of revulsives, as foot baths made stimulating with cayenne pepper, mustard and nitro-muriatic acid; a large poultice of mustard and Indian meal over the bowels; and a similar poultice over the spine, as there is tenderness about upper dorsal region, and after that apply a tartar emetic plaster to the same spot. By this plan of treatment, she escaped her fits just one month, until March 7th, when she had a fit, which was very light.

This was followed in five days, March 12th, by another occurring in the morning, which was severe, and lasted nine minutes. There was a loss of consciousness, which remained for two minutes before the patient fell. After the fit she complains only of dulness in the anterior portion of the head. Pediluvium for the evening, made stimulating with mustard.

March 13th.—Patient feels well in every respect. Dorsal spinal tenderness present, but in an inferior degree. Bowels rather confined; directed a pill of mass. hydrarg. grs. v, and sulph. magnesia ʒij following morning. Our patient, it should be mentioned, is operated upon by very little medicine.

15th.—Commenced giving tincture of stramonium. Directed two

doses that day, sixty drops each. We were careful to obtain the seeds of a gentleman who collected them at the proper season, and had the tincture made under our own direction with ℥iv seeds to alcohol Oj. Sixty drops were repeated three times a day until March 18th, when I discovered sensible effects from the medicine. Pupils much dilated, with double vision, and stupid look, similar to a person with the first effects of inebriation. Directed medicine discontinued for that day.

19*th.*—Find that the dilatation of pupils is removed, and patient can discern objects naturally. Directed the tincture continued in thirty drop doses, three times a day: a pill of mass. hydrarg. aloes and rhubarb at night, and a pediluvium with a large cupful of mustard. Continue to irritate the spine with tart. antimon. unguent.

20*th.*—The tincture was taken twice yesterday. The pill had no effect. Repeat the pill at night, and salts in the morning, if requisite. The pulse gains more force, and is near the natural standard—70.

22*d.*—The pupils are considerably dilated. There is a wild appearance of the eye: the patient complaining of imperfection of vision. Directed medicine to be continued in fifteen drop doses.

23*d.*—Directed for the evening dose thirty drops.

24*th*—Continue medicine in thirty drop doses.

April 4*th.*—The stramonium has produced looseness of the bowels; but pretty constantly since last date, thirty drops have been taken three times a day. She is at present menstruating. I have directed a pill three times a day, containing oxyd-rubr-ferri grs. ij, extract conium-maculatum, grs. ss. And to an ounce of the tincture, I have added sulph. morphia grs. ss.

5*th.*—Takes gtt. xv of tinct. for a dose.

8*th.*—Takes pills four a day.

The pills and the tinct. are regularly continued until May 10th. Nine in the evening, had a fit of short duration. Two days previous she commenced her menstrual period. This was very immoderate, her mother comparing it to one who had miscarried. Just prior to the fit, there was a great flow. After the fit they ceased entirely. It is proper to remark here that the patient had felt so well, and continued free of the fits for so long a period, that she had not observed her usual regularity in taking the medicine. Besides, on the day previous to the fit, she had taken an unusually long walk.

May 11*th.*—I have directed the tinct. in doses of 40 drops three times a day with tinct. opii gtt. xv in each dose, as there is a great tendency in the stramonium to run off by the bowels.

27*th.*—Had a fit at mid-day. She had taken gtt. 60 that morning, and gtt. 45 just prior to having the fit. She felt badly in the morning, and had eaten heartily of fried eels, contrary to all directions.

28*th.*—Have rigidly enforced a plain diet of mush and milk: apply all over the abdomen equal parts ol. terebinth. and ol. oliv.: pediluvia with

mustard, a plaster of extract hemlock, camphor and opium to spine—gtt. 60 of tinct. for morning dose, and continued so as to keep the pupils constantly dilated. The bowels now costive; this to be remedied by a pill of mass. hydrarg. aloe and pulv. rheum.

June 28th.—Had a fit, and another five days after.

July 13th.—Directed the following ℞: Ol. terebinth. ʒss: Pulv. sacc. alb. ʒij: Pulv. gum Arab. ää: Aqua destill. ʒiv. Tablespoonful three times a day.

17th.—Had a fit—the menses in large quantity, amounting almost to a flooding.

23d.—Had a fit. The tongue denoting gastric derangement, we have discontinued the ol. tereb. mixture, and with our consent, the patient has gone for a time to reside on the Brooklyn heights, for the benefit of purer air—all medicine discontinued. Diet to be observed, and take warm salt water baths, (recently established by Mr. Gray of Brooklyn.)

Remarks.—First. On stricter inquiry, we are led to believe that although this young lady has been subject to fits in their open, undisguised form, for three years, she has been predisposed to them from birth—for, in her earliest infancy, she had an attack—and had several of what are vaguely termed "inward fits." When congenital and hereditary, says Esquirol, it is never cured.

Secondly. We were induced to consider the fits depending on the condition of the menstrual discharge, and directed our treatment accordingly. We succeeded with act. plumbi grs. ij and opii grs. ss, frequently repeated, in moderating the discharge, but not in preventing the fits.

Thirdly. We are led to agree with Esquirol, not from this solitary case; for, during two years residence in Philadelphia Alms-house Hospital, there were many, very many cases, under every variety of treatment, not excepting even animal magnetism; and we regret to add, with no more beneficial results. The disease is a truly deplorable one; and thrice fortunate would he be who can point us to a certain remedy, even in a small number of cases.

280 *Broadway, January*, 1839.

ART. VIII. *Bite of a Spider on the Glans Penis, followed by violent symptoms—recovery.* By ISAAC HULSE, M. D., U. S. N. Fleet Surgeon, W. I. Squadron.

ON the 7th of August last, Mr. Q. of this place, while in the privy, perceived himself to be stung by a spider on the glans penis. The pain, which was not great at the moment, continued to increase till 1 P. M., an hour

after the accident, when it had become extreme, and I was called to see the patient. I found him lying upon a cot, and writhing under the most acute suffering. The place where the sting was made, showed no marks of irritation nor swelling. I however applied to it a strong solution of carbonat. potass, which I happened to have about me, and ran to the apothecary's for medicine. My absence lasted but a few minutes, and on my return, I found him vomiting with great violence, and complaining of deep-seated pain in the abdomen, extending up into the chest, and of sensations of choking and suffocation. The vessels of the neck and face were greatly distended, and of a dark hue. I opened a vein in the arm and let blood copiously through a large orifice, and commenced immediately to give aqua ammoniæ and laudanum in doses of a teaspoonful of each every ten minutes, which were ejected as often from the stomach—pains and spasms along the spine and extremities now came on, and the agony and anxiety were, if possible, increased. Strong volatile liniment, tinct. cantharides, and spirits terebinth. were alternately applied to every part of the body by the patient's numerous friends who had assembled round him, and common injections were administered as frequently as they conveniently could be, with a view to open the bowels. The ammonia and laudanum were assiduously plied and occasionally some tinct. camphoræ, likewise; at the suggestion of Dr. Edwards of the navy who was called in, the oleum olivarum was freely administered. At 3 P. M. the paroxysms of pain came on at longer intervals, and the vomiting was less urgent, but the intensity of the pain when present, was undiminished. The principal medicine relied on, viz. the ammoniæ and laudanum, were continued every half hour, and at about 5 o'clock, after the exhibition of fifteen injections, fæcal evacuations were obtained from the bowels. The patient became much easier in the course of the evening, and was able to retain a dose of castor oil, which purged him freely; but the pain in the legs continued through the night, which he passed without sleep.

On the subsequent day, sinapisms were applied to the legs without effect, and the evening brought little or no mitigation of the pain. Veins were now opened in both feet, which were placed in warm water, and the blood was allowed to flow till an impression was made on the pulse. In an hour after the bleeding, the patient enjoyed perfect ease; he slept well that night, and on the following day was able to walk about the house. He recovered in health very speedily.

This gentleman is of dark complexion, short stature, and powerful muscular development.

I saw several spiders in the place where he received the sting. They were of large size, of a dark brown colour, covered with hairs over the legs and body.

In this case four ounces of laudanum and an equal quantity of aqua ammoniæ were administered in the space of four hours.

Pensacola, February 2d, 1839.

ART. IX. *A Brief Account of Scarlatina, as it prevailed in the Orphan House, Charleston, South Carolina, during the months of June and July,* 1838. By GEO. LOGAN, M. D., Physician to the Institution.

THE summer commenced with very unsettled weather, the transitions of temperature were frequent and sudden. On the 2d June, a storm occurred, accompanied by rain. On the 4th, the heat was oppressive; again on the 7th, Fahrenheit's thermometer fell to 60°. From this date to the close of the month, the season was dry and warm; an inflammatory constitution of the atmosphere resulted.

This was manifested by the character of the prevailing diseases. Catarrhal affections were general, and in several instances assumed the form of pneumonia, requiring the lancet; harassing hooping cough (still lingering in the institution) was aggravated to a degree which rendered depletion and blisters necessary. Anodynes could seldom be employed with safety: although the sufferings of the little subjects were protracted, they were all restored to health before the middle of July.

About the second week in June, the much dreaded *scarlatina*, which had afflicted a part of the city for eighteen months previously, first appeared in this institution. Its distinctive character was strikingly developed. The first eleven cases were unattended by any malignant symptoms, passing favourably through the several stages. Swellings of the tonsils, pain and soreness of the fauces subsided on the fifth day; desquamation of the eruption took place on the sixth, and convalescence on the eighth and ninth days.

The subsequent cases were more violent, confirming the observation of certain distinguished physicians, "that in large institutions, epidemics in their progress often acquire a malignancy." To obviate this as far as possible, the commissioners with a solicitude and kindness becoming guardians of the "publics' children," consented to appropriate the spacious chapel as an hospital, into which thirteen subjects then under treatment, were transferred. Disinfecting substances, as chloride of lime, and afterwards the fumes of vinegar and nitre were introduced into the dormitories and other apartments.

The most alarming instances were ushered in, with languor, shivering, pain of the back, tenderness of the epigastrium, vomiting, pyrexia, with very ardent heat of the chest and body, a phenomenon in scarlet fever, noticed by physicians of antiquity, and among moderns, particularly by Dr. Currie of Liverpool, who regards this as the hottest of all diseases.

The exacerbations were invariably severe on the second and third nights. The efflorescence became confluent, with sometimes a tendency to recede in the morning, or to assume an ash, or purple colour, rather than *scarlet;* great restlessness and delirium were concomitants. Glandular swellings, anasarca, hydrothorax, and pulmonary affections, attended in many instances;

enormous imposthumes frequently succeeded, especially where there existed a strumous diathesis.

In the method of treatment, depletion was resorted to within the first thirty hours, at the commencement of the *high* temperature of the body, *this* being the favourable moment for vigorous action; calomel, and afterwards castor oil, or the sulphate of magnesia as febrifuges and anthelmintics, were generally exhibited; worms being always suspected to increase the gastric irritation, sometimes an emetic of ipecacuanha had a happy effect as a diaphoretic, and in accelerating the eruptive stage; cold vinegar was applied to the head during the height of pyrexia; oleaginous enemas were useful auxiliaries. Synapisms were beneficial in cases when there was a tendency to recede, or to assume the "*purpurata;*" on the latter occasion, the internal use of mustard produced a very favourable influence. Detergent gargles in which a large portion of common salt was dissolved, were usually employed. Anasarcous swellings, as well as pulmonary affections, and imposthumes were frequent attendants, after the mildest as well as the most alarming forms of the disease, and under every variety of treatment indicated by the symptoms. It might therefore be inferred, that scarlatina is accompanied by *symptomatic fever*, with an original determination to the cutaneous and glandular systems.

In one subject, the œdematous condition of the system, with oppressed respiration, rendered a recumbent position insupportable; a fatal issue seemed to be rapidly approaching. I ventured to employ bloodletting; the result exceeded my most sanguine expectations; the benefit was decided and permanent, when indeed no professional hope could have been cherished.

Diarrhœa and dysentery were among the sequelæ, and our convalescents were long predisposed to cholera. Upwards of sixty children were under the influence of this epidemic in the course of eight weeks. Females suffered more than males. The symptoms were most violent in subjects between five and twelve years; no instance occurred of a second attack in the same individual; all predisposition seemed to have been obliterated.

One fatal case only have we the misfortune to record, a female in the eighth year of her age: in this unhappy instance, extreme difficulty was experienced in administering remedial means; great restlessness and delirium was observed on the second day; the cicatrix on her arm, for which she was bled, mortified, as did also a slight bruise produced by a casualty. The whole surface of the body previous to the disease, exhibited the highest appearance of malignancy. Hemorrhage from the mouth and nostrils took place two days antecedent to her death. About fifty inmates of the house (subjects for the disease) escaped: whether this exemption was effected by a returning *salubrity* of atmosphere in the locality, or to the peculiar action of *belladonna*, exhibited at the instance of my son Dr. Thomas M. Logan, in accordance with the plan of certain eminent European physicians, or to inoculation for scarlatina, which was also practised as a prophylactic, cannot be determined; certainly none of the latter subjects were afflicted with the epidemic.

MONOGRAPH.

ART. X. *On Pseudomembranous Inflammation of the Throat.* By E. GEDDINGS, M. D., Professor of Pathological Anatomy and Medical Jurisprudence in the University of the state of South Carolina.

SYNONYMES—*Pseudo-membranous inflammation of the throat. Angina Pseudo-membranacea. Angina tonsillaris membranacea. Angina Plastica. Angina Diphtheritica,* (Bretonneau.) *Angine Couenneuse* (Guersent.) *Häutige Bräune.* Germ.

THESE several terms have been employed to indicate a peculiar form, or grade, of inflammation, attacking the mucous membrane of the throat and adjacent parts, the most conspicuous character of which is, the formation of a thin pseudo-membranous pellicle, either continuous or disposed in patches, and intimately adherent with the surface of the membrane producing it. The appellation *Diphtherite*, or *Diphtheritis*, (from Διφθερα, *membrana, exuvium,*) applied by Bretonneau to this affection, has been subsequently adopted by many of the French writers, and by some of other countries. He wished to indicate by it, a *specific* inflammation of the mucous membrane of the throat, characterised by the development of a membranous exudation upon the surface; and besides the proposition relating to its specific character, he attempts to prove, that this affection is identical with the angina maligna of authors; that croup is only the last degree of this disease; that angina maligna, or gangrenosa, is not gangrenous; and that there is no relation between mortification and the alterations to which this disease gives rise.*

The close affinity, if not the absolute identity, between angina membranacea, and angina gangrenosa, has been so fully established by the concurrent observations of ancient and modern pathologists, that there can be but little question about the propriety of considering them as different grades merely of the same affection. But croup, as it has been generally described and understood, by most of the writers of the last and the present century, is a disease so essentially different in most of its leading pathological characters, that it cannot be properly classed with either of the other affections. Diphtheritis, when it extends into the air passages, often gives rise to the formation of a false membrane upon the surface of the mucous membrane lining the larynx, trachea and bronchia; but this condition is widely different from croup, properly so called; and Bretonneau and his followers have created great confusion by their attempts to establish their identity.

The pellicular deposite formed upon the surface of the mucous membrane of the throat in the anginose affections, did not escape the observation of the early writers on medicine; but we are certainly indebted to Bretonneau for a better description of the disease in which it occurs, than had been given by his predecessors. The affection denominated *prunella*.

* Traité de la Diphtherite, p. 11. Paris, 1826.

by some of the ancient authors, was probably identical with the diphtheritis of Bretonneau. It is described as a chronic inflammation, spreading from the root of the tongue to the precordia, characterised by burning pain, a dark red colour, and the development of a whitish pellicle upon the surface of the inflamed membrane.* The description given by Aretæus, of the ulcers of the tonsils, can apply to no other affection than the one under consideration. These, he says, are sometimes mild, and without danger: aliqua aliena, pestifera, necantia—pestifera sunt lata, cava, pinguia, quodam concreto humore albo, aut livido, aut nigro sordentia—crustam vero circumveniunt rubor excellens.† Similar remarks are made by the same author in other parts of his work, and corresponding descriptions might be cited from several of the writers of antiquity. The disease seems to have been of frequent occurrence during the seventeenth century, and was described, more or less in detail, by several of the writers of that period. It often appeared as a destructive epidemic, falling with its greatest force upon children; and as such was described by Carnevale, at Naples, in 1618;—in other situations, and at different periods, by Renatus Moreau, Alaymus, Francis Nola, Severinus, Wedelius, Cortesius, Zacutus Lusitanus, Ghisi, Heredia, &c. It appears to have prevailed with frightful ravages in Spain, and the Spanish provinces, and was by many considered as a disease of modern origin; first making its appearance in Spain, about the year 1610, and afterwards extending to Naples, Malta, and Sicily, where it continued to prevail for the succeeding twenty years.‡ This opinion, of the modern origin of the disease, was predicated on the silence of the Arabian physicians in relation to such an affection; but its correctness is invalidated by the quotations already made from Aretæus and others. It appears, indeed, to have been described as early as the year 1600, by Alfonso y Pedro Vasquez, a Spanish physician; and between this period and the year 1666, it called forth a great number of memoirs and treatises, from the physicians of Spain, by whom it was described under the appellations *garrotillo*, *trabadillo*, *morbus suffocans*, &c.§

In the course of the eighteenth century, notices of the disease were greatly multiplied, as it prevailed extensively, at different periods, throughout the greater part of Europe. But in proportion as it became more frequent in its appearance, the difficulty of tracing its history was much increased, by the different appellations which were, at different times, employed to express its true character. It was particularly in the course of this century, that originated the confusion, which has been subsequently continued, arising from the application of the terms cynanche maligna, angina maligna and gangrenosa, scarlatina maligna, scarlatina gangrenosa, ulcerated sore throat, putrid sore throat, &c. to conditions either identical, or differing so slightly from each other, as to render it impossible to discriminate between them. If, then, we admit that there is a disease cor-

* Etmuller de Feb. p. 202, apud Naumann. Klinik. 61.

† Aretæus, Lib. ii. caput. ix.

‡ Don Joaquin de Villalba, Epidemiologia Española ó Historia Cronológica de las Pestes, Contagios, &c. que han Acaecido en España, tomo ii. p. 18. Madrid, 1803.

§ The following list comprises most of the Spanish writers on the disease, in addition to those cited above from Bretonneau:—Gomez de la Parra, Francisco Perez Caseales, Juan de Villareal, Herrera, Alonzo Nuñez, Juan de Soto, Francisco de Figuero, Lorenzo de San Millan, Don Nicolas Antonio, Don Fernando Sola, Geromina Gil de Pina, Nicolas Gutierre, Luis Mercado.

responding to the characters proper to cynanche maligna, and independent of scarlatina maligna, it must be confessed, that this difference has not been kept in view by the writers of the eighteenth and nineteenth centuries who have treated on the subject. Thus the diseases described by Huxham and Forthergill, which are generally adopted as the type of cynanche maligna, were unquestionably scarlatina maligna; and there is no satisfactory evidence that the descriptions of Baillou, Morton, Malonin, Cotton, De Haen, Wall, Johnstone, Grant, Bang, Aaskow, Withering, Sims; and, in this country, of Colden, Douglass, Bard, and others, apply to a different disease. The more recent descriptions of Stoll, J. P. Frank, Reil, and of the numerous writers of the present century, have contributed greatly to improve our knowledge of the disease; but have left us in the same doubts that formerly existed relative to the exact relationship between scarlatina maligna, and the affections usually described under the names of cynanche maligna, putrid sore throat, &c.—it being still contended by some, that the two affections are identical.

Without pretending to discuss this question, I shall content myself with attempting to describe the diphtheritis of Bretonneau, and the angina maligna of previous authors, which it will be sufficient for the end proposed to consider as different degrees or stages of the same affection.

1. *Angina Pseudomembranacea.*—The incursion of the disease is often very insidious. The patient experiences merely a slight sense of rawness and heat in the throat, with a feeling of stiffness about the neck, and some impediment in deglutition. There is, however, in many instances, no difficulty experienced in swallowing, and the chief uneasiness experienced is a dry, raw sensation in the throat, as though the membrane had been preternaturally irritated by pepper or some other pungent substance. Some complain, from the commencement, of languor, general discomfort, a sense of chilliness, alternating with flushings of heat, thirst, pain of the head, swelling and stiffness of the throat, and considerable difficulty of deglutition. But this is far from being common; the patient, if a child, often continuing to indulge in its ordinary sports, being only a little fretful and dejected.

The condition of the mucous membrane of the fauces and tonsils exhibits appearances far more characteristic of the disease. Even at the commencement of the attack, these parts exhibit a deep red, circumscribed or extended suffusion, covered with coagulated transparent mucus, often disseminated in small isolated particles, of a whitish or grayish colour. As the disease advances, the exudation, which was at first slight, becomes more abundant, and forms a concrete pellicle, of a yellowish or grayish colour, generally disposed, at first, in patches more or less circumscribed, which are often a little elevated in the centre, but attenuated and flocculent at the circumference. This pseudo-membranous pellicle is at first thin and cribriform; but its thickness is afterwards increased by successive depositesites. This gives it greater firmness, and it may sometimes be detached entire from the mucous membrane. If, however, the separation be cautiously made, the pellicle will be found to adhere to the subjacent membrane by numerous minute prolongations, or filaments, which seem to perforate the orifices of the mucous follicles. The severance of these generally produces a slight discharge of blood from the point with which they adhered, and when they have been detached several times, the bloody exudation becomes so considerable that it seems to ooze from every portion of

the denuded membrane. The part of the membrane from which the pellicle has been removed is not generally much swollen, but exhibits a dark red colour, often variegated with points or striæ of a deeper hue. In the interstices of the patches, the submucous cellular tissue occasionally assumes an œdematous condition, which elevates the corresponding portion of the membrane, and the isolated points covered by the pellicle being depressed, exhibit the appearance of ulcers, coated by a tenacious exudation. In all, except very mild cases, the patches soon become confluent, and very often the whole of the tonsils, the soft palate, the posterior part of the fauces, and even the inner side of the cheeks, and the whole mouth, are lined by a pellicular exudation of considerable consistence, which is rapidly renewed as often as it is detached.

The adventitious deposite is sometimes pultaceous and transparent, but in the course of the disease, it acquires greater consistence and tenacity, and may even attain, at some points, the thickness of several lines. Its colour also changes, becoming first ash-coloured, then brown, and finally black; in which condition, the patches are often mistaken for gangrenous sloughs. If they be detached at this juncture, the membrane beneath will be found of a dark-red colour; spongy, excoriated, and disposed to bleed on the slightest touch; but in no other respect altered. The perverted secretions poured out by the affected part, together with the constant oozing of blood which now takes place, renders the breath of the patient highly offensive, and the irritation being propagated to the surrounding parts, the cellular tissue of the neck often becomes tumid and œdematous; the lymphatic and salivary glands enlarge; and deglutition is performed with difficulty and pain.

In the early stage of the disease, the tongue is red on the borders, and narrowed at the tip. Its surface is covered with a thin whitish pellicle, through which the prominent red papillæ project, exhibiting the appearance of the small granules of a strawberry, but towards the root of the organ, the fur is, from the commencement, of a darkish hue, and as the disease advances, this appearance becomes more extended. Towards the close, the whole tongue often becomes dry, scabrous, and of a dark brown or black colour; the mouth is also dry; the teeth are covered with sordes; small ulcers form along the edges of the tongue and upon the inner surface of the cheeks; and the slightest irritation excites a discharge of blood from nearly the whole extent of the lining membrane of the mouth and fauces. This dryness of the mouth and tongue is far from being a constant character of the disease. It is not unusual, particularly during the early stages, for the glandular secretions of the mouth to be inordinately increased; and in some cases, it amounts to a complete salivation. The tonsils and soft palate are sometimes very much swollen; and occasionally the tongue is so much tumefied, as to fill the whole mouth, which, in consequence of the inability of the patient to breathe through the nose, is kept widely extended.

The disease is seldom confined to the mouth and fauces, but extends into the nose, along the eustachian tubes into the ears—into the larynx, and down the pharynx and œsophagus. The implication of the schneiderian membrane of the nose, is indicated by a thin ichorous discharge, producing considerable soreness and excoriation at the apertures, and by so much tumefaction of the membrane itself, as to render it impossible for the patient to breathe, except through the mouth. This keeps the tongue and

buccal cavity in a constant state of dryness, which adds greatly to the discomfort of the patient. Sometimes the discharge from the nose is thick and flocculent, and the effort to expel it not unfrequently occasions more or less blood to be poured out, which, mingling with the vitiated secretions, imparts to them a dark colour. Profuse epistaxis may occur under the same circumstances; and in all cases the discharge from the nose exhales a peculiar sickening, fœtid odour.

When the pseudo-membranous inflammation extends into the larynx, it gives rise to all these symptoms of croup; as hoarseness, a shrill cough, great difficulty of respiration, and in some cases, complete aphonia. This circumstance has, doubtless, confirmed Bretonnean, and others, in the belief, that diphtheritis and croup are but one disease. In both affections, there is often formed a tough pseudo-membranous deposite upon the surface of the lining membrane of the larynx, trachea, and bronchial tubes; but although there is this correspondence in the anatomical characters of the two diseases, as well as in some of the leading symptoms, there is an essential difference in some of the principal elements of their pathalogy.

When the eustachian tube is involved, there is pain of the ear, with impairment of hearing; and in some cases, the use of the organ is permanently destroyed by obliteration of the tube. If the inflammation should spread into the pharynx and œsophagus, it will necessarily occasion a great feeling of soreness along the course of these organs, and acute pain, whenever an attempt is made to swallow. The false membrane, however, seldom extends far into the gullet, even when the inflammation producing it, spreads to the stomach and intestines.

A remarkable peculiarity of this diphtheritic inflammation is, that while its principal seat is the parts about the throat, it often seizes upon remote portions of the surface of the body. The contour of the anus; the apertures of the genito-urinary organs; the external meatus of the ears; the folds of the groins; and other similar parts, often exhibit excoriations, caused by a thin pellicle of false membrane, analogous to those which form in the throat. It is remarked by Trousseau, that he never witnessed this condition upon the skin, except in situations where the epidermis had been previously removed, or ulcerated; consequently when it had been made to assume some of the characters of a mucous membrane.* Blistered surfaces, especially, are liable to become covered with a pulpy pellicle, which sometimes assumes a dark colour; and leech-bites, or even slight excoriations of the cuticle, often run into an unhealthy form of ulceration, or give rise to an eruption of vesicles, surrounded by an inflamed areola.

The course of this form of angina is generally slow. The disease seldom reaches its height before the seventh or eighth day, and cases of much intensity seldom terminate in less than a fortnight, or three weeks. The fever, which is present from the commencement, generally continues with more or less variation through the entire course of the disease. But the inflammation and fever, which during the first stage proceed with considerable rapidity, show a tendency to become stationary after the lapse of a few days. The heat of the skin, when it is increased, is generally pungent at first; but in some cases, it is but little altered. The thirst is urgent; and the pulse is frequent, irregular, irritable, and without much

* Dictionnaire de Med. 2d edit. Art. Diphtherite.

force or volume. The eyes and countenance are sometimes flushed; but in many cases, the latter is pale, swollen, and wears an expression of sadness, and dejection. These symptoms are increased as the disease advances; but the heat of the surface, if considerable during the first stage, undergoes a sensible abatement, at the same time that the skin assumes a dingy appearance, and loses its natural elasticity.

There is frequently nausea, epigastric tenderness, and great precordial oppression. The bowels are generally constipated at the commencement; but it is not unusual for diarrhœa to supervene in the course of the disease; and in the last stages, it sometimes becomes colliquative; rapidly prostrating the powers of life. The secretions are perverted in quantity and quality, and the urine, especially, is scanty and dark coloured.

It has been remarked that delirium is seldom observed as a concomitant of diphtheritis. This assertion should be admitted with considerable limitation, as the nervous system is, in a majority of cases, extensively implicated. Very often, however, this complication is indicated rather by a state of general torpor, or prostration of nervous power, than by evidences of cerebral excitement. In bad cases, the muscular energy is generally prostrated from the commencement, and in the latter stages, it is so far impaired, that the patient is rendered completely helpless. The general, as well as the local symptoms, vary greatly, however, according to the violence of the disease. In mild cases, the febrile phenomena are inconsiderable, whereas in those of greater intensity, frequent excerbations are observed—generally two or three in the twenty-four hours.*

In those cases in which the disease extends to the larynx, the life of the patient is always endangered; for, independently of the symptoms of croup already alluded to, which are apt to be developed under such circumstances, the inflammation is liable to spread into the bronchial ramifications, giving rise to all the phenomena of bronchitis, or pneumonia. This complication takes place, according to Guersent, about the seventh day, and is so insidious at the commencement, or is so masked by the local affection of the throat, that the fever and cough are apt to be ascribed to the latter cause. Indeed, cases not unfrequently occur, in which the affection of the fauces is very slight, while the larynx is so intensely implicated, that the disease terminates fatally, with all the symptoms of croup, within a few hours after the attack. This did not escape the observation of Hippocrates, and is noticed by him, both in his aphorisms and prognostics; in the last of which he remarks—"Anginæ horridissimæ sunt, et citissimè occidunt, quæ neque in faucibus quicquam conspicuum faciunt, neque in cervicem, verum plurimum dolorem exhibent, et erecta cervice spirationem inducunt—hæ enim eodem die suffocant."

In such instances, the cough is not so clearly guttural as in croup, nor is there so much hoarseness and aphonia as in that disease. The expectoration is generally tough and streaked with blood; sometimes frothy; percussion and auscultation reveal the presence or absence of the physical signs of bronchitis or pneumonia; and there is generally considerable fever, which presents regular evening exacerbations.

When the disease terminates favourably, the pultaceous, or pseudo-membranous deposite is generally cast off, leaving a clear, moist, red surface beneath, upon which there is no disposition to form a new croup. It

* Guersent. Dict. de Med. 2d edit. Art. Angine Couenneuse.

is sometimes detached in flakes—but more frequently it seems to be partially liquefied, and is thrown off in force of expectoration. The tongue becomes clean, and moist upon the edges, and expanded at the tip; the expression of the countenance assumes more animation; the general feeling of discomfort abates; and often a genial moisture diffuses itself over the surface of the body—convalescence then commences, but is often slow, and when the disease is associated with scarlatina, relapses are very apt to take place, or the life of the patient may be destroyed by dropsy, even after convalescence has set in. An unfavourable issue is indicated, by an aggravation of the leading symptoms of the disease—especially by the supervention of active delirium, or coma—extreme prostration of strength, great dryness and blackness of the mouth and throat, wasting diarrhœa, and a general tendency to dissolution of the solids and fluids. Under such circumstances, the disease assumes all the characters of angina maligna, which, though by many considered as a distinct disease, I shall describe here as constituting merely a variety of diphtheritis, or angina membranacea.

2. *Angina Maligna—Angina Gangrenosa—Cynanche Maligna.*

Many writers continue to describe a disease under this name, which they consider distinct from scarlatina maligna. The putrid sore throat of Fothergill and Huxham, however, which all acknowledge as the type of cynanche maligna, corresponds in every essential particular with the malignant forms of scarlatina. It is nevertheless true, that the pseudo-membranous angina sometimes assumes the same malignant character, and in this respect only, is it proposed to notice it under the present head.

The invasion of angina maligna does not differ essentially from that of the ordinary forms of diphtheritis, and any dissimilarity that occurs, relates more to intensity than character. There is the same languor and dejection—prostration of strength, uneasiness about the throat—and in some instances, a sense of chilliness preceding the development of the febrile phenomena. The glands about the throat, the tonsils especially, are generally more swollen from the commencement. The face exhibits a bloated, bronzed aspect; the eyes are heavy, lustreless, and watery; and the breath offensive. The fauces exhibit a deep red, or purple suffusion, upon which small patches, or flocculi, of a pulpy pseudo-membranous consistence are deposited. These are sometimes white, but more frequently of a dull ash colour, which in a short time is changed to brown or black. When first formed, they adhere to the surface of the mucous membrane with considerable tenacity, and when separated, leave it raw, dark coloured, and bloody. The parts speedily assume a dark sloughy condition; the adventitious deposite, together with the portions of the mucous membrane, is thrown off in form of flocculi, or shreds, which exhale a putrid, cadaverous odour; and the sloughing process spreads rapidly into the substance of the tonsils, the soft palate, and occasionally, also, into the parotid glands and cheeks. There is, likewise, almost from the commencement, a dark-coloured sanious discharge from the nose; dark-coloured vesicles form about the margin of the lips, the angles of the mouth, the inner surface of the cheeks, and upon the tongue. These discharge their contents, and take on a sloughing tendency. A similar condition is occasionally developed upon different portions of the skin. In a case which recently fell under my observation, the whole of the upper part of the tongue was thickly clustered

with small vesicles, similar to those produced by sprinkling boiling water upon the cutaneous surface. In the epidermis described by Colden, sores like those in the throat, formed behind the ears, on the genitals, or other parts of the body, and in these cases, there was sometimes no ulceration in the throat. Petechia are also sometimes observed, They were almost constantly present in the epidemic described by Short; and Wall, as well as many other writers, describes them as of common occurrence.

This form of the disease, like the preceding, is liable to implicate the larynx and air passages, and to extend its influence to the mucous membrane of the pharynx, œsophagus, stomach, and intestines. Nausea, vomiting, and epigastric oppression, are, indeed, frequently present from the commencement, and if the disease is not at first attended with diarrhœa, this symptom sooner or later supervenes. The dejections are thin, copious, sanious, and intolerably offensive. They are often so acrid as to excoriate, and inflame, the contour of the anus; and in bad cases, copious hemorrhages take place from the bowels, which have been ascribed to the formation and detachment of sloughs in the intestines, similar to those which are developed in the throat.

The febrile symptoms are generally marked by symptoms of considerable intensity, during the first and second days. The skin is hot and pungent, and the fever exacerbates towards evening. The mouth is parched: the thirst urgent; and the tongue soon becomes dry, brown about the root; finally black and scabrous—while sordes of the same colour invest the teeth and gums. The latter are generally spongy, tumid, and disposed to slough; and in some cases, gangrenous eschars involve the cheeks to such an extent, as to traverse their entire thickness. I have recently attended a case in which a rounded perforation was formed in the soft palate. Death took place in the advanced stage of the disease, by hemorrhage from the mouth—probably in consequence of the sloughing of the internal carotid artery—as the child died almost immediately after the irruption of the blood.

When the throat is much swollen, the difficulty of deglutition is extreme, and the enlargement of the glands about the neck, sometimes impedes the return of the blood from the brain, thereby giving rise to great turgescence of the vessels of the face and eyes, and considerable cerebral disturbance. Delirium, indeed, often exists from an early period, and although the febrile symptoms, which are at first urgent, soon subside into a low typhoid state, the delirium either continues, or gives place to a state of stupor or insensibility.

Angina maligna has no definite duration. It may destroy life in a few hours, or be protracted through a term of two, three, or four weeks. It generally reaches its height by the fifth or sixth day, and it rarely happens, that symptoms of high reaction continue beyond this period.

Prognosis.—The prognosis is generally unfavourable when the symptoms assume a formidable character at the end of the first week, and well grounded fears of an unfortunate issue may be entertained, when a marked tendency to dissolution of the solids and fluids is developed—especially, if with this, there be either extreme prostration of the vital powers, or serious complications arising from, and extension of the disease to the respiratory and digestive organs. A favourable termination may be anticipated, when the disease extends beyond the first septenary period, without the supervention of formidable symptoms, particularly if the se-

paration of the sloughs have a clean healthy surface beneath. The absence of complications with laryngeal and gastro-intestinal symptoms is also favourable, as are likewise a diminution of the frequency of the pulse, a subsidence of the tumefaction of the throat, and of the dryness of the tongue, with cessation of the diarrhœa, and the establishment of more consistent and healthy dejections from the bowels.

Ætiology of Angina Membranacea, and Angina Maligna.

Both grades of the disease may appear under either an epidemic or a sporadic form. They occur most frequently as an epidemic, confined to districts of small extent, or to cities, towns, and villages. Children are much more liable to be attacked than adults; and in them, it always assumes greater violence, although adults, contrary to what was asserted by Fothergill, often fall victims to its ravages. It has been affirmed that females are more liable to be attacked than males; but there is some reason to doubt the correctness of this opinion.

The disease is most prevalent in autumn and spring, and it has been generally said to occur most frequently, when the seasons are damp and rainy, with the long continuance of a heavy, cloudy, atmosphere. Such a coincidence has certainly been observed in many epidemics, yet the exceptions are too numerous to justify the conclusion that these conditions of the atmosphere are the essential causes of the disease. It is remarked by Trousseau,* that in 1825, a year remarkable for its dryness, the communes situated north of Orleans, were ravaged by diphtheritis, and it was observed, that the intensity of the epidemic did not reach its height in one commune, at the same time it did in another, placed under the same circumstances. Low, damp and marshy situations, it has also been affirmed, are more liable to the disease, than such as are high and arid. Such an inference must be received with some qualification, since it is proved by the history of many epidemics, that even the most salubrious and elevated localities, are not exempt. Such was the case in an epidemic observed by Trousseau, while the marshy districts of the same region enjoyed a perfect immunity. Poverty, or neglect of cleanliness, a want of ventilation, and an atmosphere vitiated by crowding together a number of persons, particularly children, as is the case in boarding schools, must be regarded as active predisposing causes. Yet the disease not unfrequently prevails to a great extent, where most of these circumstances are absent, and among those who enjoy every comfort and luxury of life. Within the last eighteen months, during which time diphtheritis has been prevalent in Charleston, I have not observed that its attacks were more frequent among the children of the poor, than those of the opulent.

The difficulty of referring the disease to any ordinary cause, and the circumstance of its spreading through whole families and communities, have induced many to refer it to a specific contagion. The sentiments of the profession on this question are conflicting, and owing to the disease having been confounded, until recently, with scarlatina, the documentary evidence is in a high degree unsatisfactory. Unfortunately, but little of it is available in forming a decision of the question, and if we confine our attention to the testimony of writers since the time of Bretonneau, the first to draw a distinction between diphtheritis and scarlatina, we shall find it contradictory. Trousseau is strong in his belief in a specific contagion,

* Dictionnaire de Med. 2d edit. Art. Diphtherite, tome x. p. 392.

He affirms that it is sufficient for one individual labouring under the disease, to be introduced into a family, to insure its development under all its forms. The cutaneous form of diphtheritis, especially, he thinks is very liable to be communicated by contact; and amongst the poorer classes, where the same bed, clothing, and utensils, are used by all, the virus will thereby become so accumulated, as to render it very liable to attack all the members of a family. He inform us, that in 1828, he knew thirteen individuals, out of seventeen, fall victims to the disease. He found, however, that inoculation in the arm, the tonsils, and the soft palate, with a lancet smeared with the matter of a false membrane taken from a diphtehritic sore, did not produce the disease. In the arm, it gave rise to a small vesicle, but produced no effect upon the mucous membrane. Similar experiments were made upon animals by Bretonneau, but without communicating the disease. Yet it is stated that a boy, at the College of Fleche, who was affected with chilblains, was attacked with pseudo-membranous eschars between the toes, in consequence of walking barefoot over the floor of the infirmary, which was covered with the sputa of a comrade labouring under diphtheritis.*

On the other hand, it has been contended that the simultaneous appearance of the disease in several members of the same family, or the occurrence of a succession of several cases among individuals inhabiting the same locality, do not justify a belief in contagion, since similarity of organization and temperament, which often exists under such circumstances, would be apt to predispose those possessing it, to a similar form of disease, on their being exposed to an epidemic influence. It has been often observed, moreover, that when the disease breaks out in a family, or school, only a part of the members sicken, although free intercourse exists between them; that when persons already affected with it, are removed from the atmosphere where they contracted the malady, they do not transmit it to others, who may be brought in relation with them. Bourgeois,† has mentioned some interesting examples of this kind, which occurred during the epidemic of St. Denis, and in several instances which have fallen under my observation, during the present and preceding seasons, one, two, or more of the members of a family have been seized by the disease, while all the rest have escaped, although free intercourse existed.

An examination of the whole grounds, seems to justify the conclusion, that diphtheritis, in both its forms, depends upon an epidemic constitution. Yet under particular circumstances, as where many persons are crowded together, where ventilation is imperfect, and cleanliness is neglected, there can be no question of the generation of a contagious influence, capable of transmitting the disease from one person to another. Bretonneau, Trousseau, Bourgeois, and Guersent, all mention instances, which must be deemed conclusive upon this point.

Pathology.—The anatomical characters of diphtheritis, in both its forms, have been so fully described above, that little remains to be said upon that subject. The most striking feature is, the pultaceous, or pseudo-membranous deposite upon the mucous membrane of the throat and adjacent parts—sometimes preceded, or even accompanied by small vesicles,

* Guersent. Dict. de Med. Art. Angina Membranacea.
† Mémoires de l'Académie Royale de Médecine.

of a whitish, or purple colour. The membrane is also inflamed, and raw upon the surface, but is far less frequently ulcerated, than was formerly supposed. In the proper pseudo-membranous form of the disease, gangrene is of rare occurrence, although the false membranes very often assume a dark, or black colour, and a flocculent appearance, from which they might, on a superficial examination, be taken for gangrenous eschars. Gangrene and sloughing are of common occurrence in angina maligna, and often extend deeply into the surrounding parts. Most of the other anatomical characters observed in the disease, relate to the accidental complications. They consist, chiefly, of lesions of the respiratory, digestive, and auditory apparatus, in which traces of inflammation and false membranes are often discovered.

The pathology of the disease is difficult to explain. There is obvious hyperemia of the mucous membranes, with impairment of nervous energy. Yet there is something peculiar in the inflammation, which imparts to the disease all its distinguishing characters. Bretonneau and his followers tell us, it is a *specific inflammation;* but this furnishes no explanation of the several elements composing the morbid process. Broussais, Emangard, and others, affirm that diptheritis is primarily a gastro-enteritis, the affection of the throat being merely a complication. By the first of these writers, it is said to be a species of typhus, with predominance of guttural inflammation; and in speaking of the cause of the fever, he affirms that it is a gastro-enteritis, such as is observed in low and humid situations—upon the borders of rivers, in the vicinity of marshes; in all localities, in short, where the temperature is depressed, and the air charged with humidity, malarious exhalations from animal and vegetable substances in a state of decomposition, fogs, &c.*

Gastro-enteritis is certainly one of the most frequent complications of the disease, but cannot be considered the source of its leading peculiarities; nor can all its local phenomena be explained by a reference to a state of acute hyperemia of the nervous membrane of the fauces, with an exudation of coagulable lymph, as maintained by Andral. There is something in the predisposition, which impresses upon the inflammation a character totally distinct from that of ordinary phlogosis. Naumann supposed that some change is wrought, by the epidemic influence, upon the properties of the blood, rendering its albuminous constituents incapable of being held in solution by the serum, in consequence of which the former exude upon the surface of the mucous membranes, in form of the pellicular deposite which characterizes the disease.† Consequently, when this predisposition exists, the occurrence of gastro-intestinal irritation will give rise to pseudo-membraneous deposites on the surface of the inflamed mucous membrane.

In connection with this hypothesis, I may allude to the researches of Donné, which go to prove that, in the course of disease, the secretions become highly acid, so that, if we admit as valid the opinion of Raspail, that fibrine is merely albumen coagulated by an acid, we thus acquire a reason why, as represented by Naumann, the serum loses its power of holding the albumen in a state of solution. These opinions are not offered as established facts, but only as conjectures, which, however, if found to be

* Cours de Pathologie et de Thérapeutique Générales, tome i. p. 350.

† Handbuch der Medecinischen Klinik, bande iv. p. 81. Also, Hecker's Wissenschaftlichen Annalen.

correct by subsequent investigations, cannot fail to have an important influence in the explanation of the formation of false membranes, and many other adventitious products.

Be this as it may, the cause of the disease seems to exercise its first influence upon the ganglionic nerves, impairing their energy, and perverting their powers. A consequence of this is, a deterioration of the nutritive and secretory functions. The constituents of the blood are changed, either in quality or their relative proportions. The plastic forces are deranged, and the inflammation which supervenes is engrafted upon an organization incapable of sustaining those changes, by which restoration is so speedily effected under ordinary circumstances. The venous capillaries seem to be more deeply implicated than the arterial, and the powers of resistance or reparation being feeble, in consequence of the impairment of nervous energy, there is a strong tendency, on the part of the solids and fluids, to run into a state of dissolution.

Treatment.—Few diseases have been treated by such opposite methods as the one now under consideration. The conflicting opinions on this subject are a natural consequence of the diversified pathological views entertained by different authors; but have originated, in part, no doubt, from the dissimilar character of different epidemics. This latter circumstance has led some to regard it as a purely inflammatory disease, requiring a strictly antiphlogistic treatment. Others have had their whole attention taken up with its asthenic or adynamic character, and have, consequently, advised a stimulant or tonic practice; while a third class, making allowance for its variable nature, and watching its several changes, have pursued a mixed treatment, adapted to circumstances as they arise. The last is certainly the most rational procedure, as it is in strict accordance with the character of the disease.

In mild cases, especially such as are sporadic, gentle aperients, diluents, stimulating frictions to the throat, and emollient detergent gargles, will generally suffice to effect a cure. But where the febrile phenomena are urgent, with a high degree of inflammation of the throat, associated with a pultaceous or pseudo-membranous exudation, more active means will be demanded.

It then becomes a question of the propriety of resorting to the abstraction of blood, and other antiphlogistic remedies. Authority is strong, both for and against general blood-letting. Bretonneau, Trousseau, Bourgeois, and others, assure us that they found it altogether unavailing, and, in many cases, decidedly injurious. They make the same remark in reference to leeches applied to the throat. Many practitioners of equal respectability and experience, on the other hand, declare that they derived essential service from both general and local bleeding, when employed under proper circumstances. It is not impossible to reconcile these conflicting statements. Great diversity is observed in the phenomena of different epidemics, and also in the cases which occur under the same circumstances of time and situation. In stout, robust adults, and in vigorous children, possessing an active, sanguine temperament, if there be great heat of the skin, with an active pulse, and violent inflammation and swelling of the throat, the lancet cannot be well dispensed with in the early stage of the disease; and great benefit will be derived, under the same circumstances, from the application of leeches to the throat, and behind the angles of the jaw. This treatment was pursued with happy effect, by Gendron and

Guimier, in the same epidemic in which Bretonneau affirms that bloodletting was injurious. Bleeding was also practised by many of the older physicians, in the treatment of angina maligna, and was occasionally resorted to, by Fothergill and Huxham, in plethoric individuals. Its administration should be confined to the first stage of the disease, while the febrile symptoms are active, and to individuals possessing a vigorous circulation, with sufficient tolerance to endure the loss of blood, without the risk of prostrating the vital powers beyond recovery. Leeches may be often employed with advantage, where the lancet would be inadmissible. Neither can be prudently resorted to where the vital powers are already depressed; where the disease has existed for some time; where the skin is cool, the pulse feeble, and the fauces of a dark colour. Under these circumstances, even leeches will be injurious, and the bites are apt either to slough, or take on a diphtheritic form of inflammation. When the disease is complicated with gastro-enteritis, leeches may be applied, also, over the epigastrium. Emangard recommends them to be applied to this region in ordinary cases, upon the supposition that the disease is primarily a gastro-enteritis.

Emetics were formerly more employed than at the present time. In the forming stage of the disease, if there be no gastric complication to contra-indicate their administration, they will often render essential service by their revulsive influence; and, at a later period, they sometimes render the breathing and swallowing easier, by expelling shreds of false membrane, and the viscid secretions that accumulate about the throat. Ipecacuanha, or sulphate of zinc, will be the best articles to excite vomiting; but neither of them should be employed when there are symptoms of gastro-enteritis.

The bowels should be kept soluble during the whole course of the disease. Mild saline aperients are best adapted to the fulfilment of this indication during the early stages; and, at a later period, small doses of castor oil, or laxative enemata, may be substituted. Active cathartics, especially of the drastic class, are never admissible, as they tend, inevitably, to increase the gastro-intestinal irritation, and hasten the development of diarrhœa. Calomel, however, has been strongly recommended by respectable authority. Its powers were long since extolled by Douglass, Bayley, and Holyoake, in this country, in the angina maligna; and it has recently been commended, in high terms, by several European writers. Bretonneau administered it in doses of three grains, every two hours, so that more than a drachm was often taken in the course of the day. He remarks that it exercised a striking influence in cleansing the throat and mouth of the false membranes, and producing an amelioration of all the symptoms. Bourgeois, Roche, and others, who resorted to it, under similar circumstances, derived no benefit from its employment, and its use has been abandoned by most of the recent writers on the subject. It should not be resorted to except in the early stage of the disease, and even then, it should not be employed when there are symptoms of high gastro-intestinal irritation. With these restrictions, it may be employed in alterative doses, combined or alternated with mild aperients. If there be any cases calling for the free administration of calomel, they are those in which the inflammation extends into the larynx, producing urgent symptoms of croup. Under these circumstances, if the subject be vigorous, and the disease in its first stage, large doses of calomel may be given, in combination with tartarized antimony or ipecacuanha.

Proper attention should be paid to the skin in every stage of the disease. At the onset, the tepid bath may be employed with advantage; and it will be useful, as long as the heat continues above the natural standard, to keep the surface constantly sponged with cold vinegar and water, or spirits and water. Cold acidulated, or emollient drinks, should be taken freely, and when there is much gastric irritation, with intense thirst, the patient will be much refreshed by taking frequently into the mouth, small fragments of ice. The use of this agent has been highly recommended by Dr. Jackson, of Northumberland, in scarlatina, and it is not less efficacious in the present disease. It should not be employed, however, when the larynx and bronchia are implicated. The mild salines, possessing a slight excess of alkalinity, may also be employed with advantage during the febrile stage. The most appropriate will be, the common neutral mixture, the tartrate of potash, the ordinary effervescing draught, or soda powders.

Much difference of opinion exists, in reference to the application of revulsives to the throat. Blisters and sinaplasms have been by some considered injurious—their tendency, according to those who object to their employment, being, to excite a diphtheritic form of inflammation in the part to which they are applied, or to give rise to gangrene. This is undoubtedly true in the advanced stage of the disease, after symptoms of colliquation have commenced. They should, therefore, be resorted to with great caution under these circumstances. At an earlier period, they may be employed with less risk: but in most cases, their place can be very well supplied with rubefacients. The throat may be rubbed with equal parts of olive oil and aqua ammoniæ, with oil of turpentine, or common camphorated soap liniment, combined with aqua ammoniæ and laudanum. A very efficacious liniment for this, and other purposes, may be composed of four ounces of strong aqua ammoniæ, and two ounces, each, of cologne water and camphorated spirits. In urgent cases, however, blisters may be applied to the throat, the nape of the neck, or the extremities—the back of the neck should be generally preferred. Hirschel, Pouteau, and Mours found them highly serviceable when there was great swelling of the throat, accompanied with an urgent sense of suffocation. Warm sinapized pediluvia afford great relief, and should be repeated frequently during the course of the disease.

As soon as the powers of life manifest a disposition to fail, a more cordial course of treatment will be demanded. This will be particularly necessary, when the throat assumes a gangrenous aspect, especially, if associated with this condition, there is coldness of the skin, feebleness of the pulse, petechiæ, and other ataxic symptoms. The best remedies under these circumstances will be, the acetate of ammonia, either alone, or combined with an equal quantity of aqua camphoræ; carbonate of ammonia; infusion of serpentaria; decoction of bark with aromatics; sulphate of quinine; and the muriatic, nitric, or sulphuric acids. In the ataxic and gangrenous forms of the disease, these remedies properly employed, will be productive of the happiest effects, and great benefit will be derived, under the same conditions, from the discreet use of wine. It may be used in form of whey, or added to the farinacious articles of diet used by the patient. Great care, however, must be observed, not to resort to the stimulating treatment too early, and it may be proper to remark, that this practice will seldom be demanded, except in the last

stages of that form of the disease described under the appellation angina gangrenosa. In this state of the malady, a decoction of bark, combined with camphor, may be given in form of enemata, without the risk of producing dryness of the tongue, and other bad symptoms which sometimes follow its internal administration. A mixture of capsicum, common salt, vinegar and water, has been much extolled in this form of the disease. Stewart, who was one of the first to employ it, used three teaspoonfuls of capsicum, and two of common salt, beat into a paste, to which half a pint of boiling water, and the same quantity of good vinegar were added—the last after the infusion had become cold. Of this mixture, a tablespoonful was given to an adult, every half hour. It was administered to about four hundred patients, in the island of St. Christophers, by Mr. Stephens, and under its employment, many recovered, who had the disease under its most appalling forms.* The same practice has been very favourably noticed by several writers of respectability, and I remember an epidemic which prevailed several years ago in the interior of South Carolina, in which, with free gargling with the same infusion, the remedy was found highly serviceable.

Detergent gargles have always occupied a prominent rank in the treatment of angina maligna. Those most frequently employed are, alum, myrrh, the mineral acids, and infusion of bark. They may all be used with advantage, under proper circumstances; but within a few years, a more energetic local treatment has been extensively pursued, and in the hands of many physicians, particularly the French, has been confided in, almost to the exclusion of constitutional remedies. It consists of cauterizing the throat with strong muriatic acid, or the nitrate of silver. Bretonneau employed, at first, one part of muriatic acid, to two or three of honey, with which the throat was freely cauterized, once or twice a day, by means of a sponge probang, or a pledget of lint. He subsequently used the pure acid of the shops undiluted, in the same manner. The practice has been highly commended by Guersent, Bourgeois, Trousseau, Lepage, and several modern writers. When this disease exists under a mild form, the acid should be diluted to adapt it to the susceptibility of the parts, and any inflammation excited by the strong acid, must be combatted by emollient gargles.

The nitrate of silver, both in solution, and in its solid form, has been lately much employed under the same circumstances. It was first introduced into practice in France, by Gendron, but was employed by Mackenzie, about the same time in England. It is said to be more efficacious, even, than the muriatic acid—proving speedily effectual in destroying the false membranes, rendering the separation and swallowing easier, and imparting a more healthy character to the surface of the inflamed mucous membrane. This article, applied directly to the affected part, in the solid form, by means of a port-crayon, or in solution, in the proportion of from ten to twenty grains to the ounce of water, has displayed the most beneficial results in the hands of Guersent, Girouard, Guimier, Authenac, David, Baudelocque, Bridel, Beldon, and others. When used in the liquid form, a sponge probang should be dipped in the solution, and slightly squeezed, to prevent any of the fluid from running into the pharynx. With this, the tonsils, soft palate, and fauces, should be gently touched, two or three times a day—the tongue being depressed by means

* Edinburgh Medical Commentaries, Dec. ii. vol. iii. p. 75.

of a spatula, so as to bring the diseased parts fully into view. When I wish to employ the solid nitrate of silver, which is much to be preferred, instead of employing the port-caustic, which is attended with the risk of the caustic breaking, and falling into the throat, I reduce the substance to powder, and roll the probang, previously moistened with mucilage of gum arabic and squeezed in it, until a sufficient quantity of the powder adheres to the surface. It is then brought to bear upon the diseased parts, as in the preceding case. The patient must be cautious not to swallow, and to obviate any mischief from this cause, the throat should be gargled with tepid water, or some other fluid, after each cauterization.

Diphtheritic inflammation of the throat has been unusually prevalent in Charleston, within the last twelve or eighteen months, during which period, it has been intercurrent with scarlatina, if not a modification of that disease itself. Having had occasion to treat a great many cases, presenting almost every degree of intensity, from the mildest, to the most severe, I have given the caustic practice a pretty full trial, and with a success far beyond what I had previously realized under the ordinary modes of treatment. In many cases, even of great violence, none but the mildest constitutional treatment was instituted—which, with the application of the nitrate of silver, or the muriatic acid, was found to conduct the disease to a favourable issue. In one case, in which both sides of the throat were affected with great intensity, I determined, with the view of testing the efficacy of the nitrate of silver, to limit its application to one side. In pursuance of this intention, the caustic was applied to the left side, which was most severely affected, while for the right, no local treatment was instituted, except emollient gargles. The disease was arrested on the side to which the caustic was applied, by the fifth day, while on the right, it continued until the eight.

Other escharotic applications have been advised with the same view—as powdered alum, calomel and sulphate of copper. These substances, reduced to an impalpable powder, have been recommended to be blown into the throat, by means of a quill, or a glass tube. The two first articles have been highly recommended by Bretonneau, Guersent, and Bourgeois; and we are informed by Gmelin, that sulphate of copper is much used by insufflation, in some of the southern provinces of Russia. The great inconvenience attendant upon blowing these fine powders into the throat is, that portions of them are apt to pass into the glottis, and occasion distressing cough. This may be obviated by incorporating them with some glutinous substance, in which form, they may be applied to the affected part by means of the probang. Borate of soda was found serviceable by Bourgeois in cleansing the throat; and Guersent and Roche recommend a gargle of chloride of soda, of the strength of one drachm of the liquid to four or five ounces of water. When the patient is unable to gargle with the solution, it may be injected into the throat with a syringe—the nose being closed, to prevent its too ready escape. I have sometimes used, for the same purpose, tincture of cantharides, either pure, or diluted with an equal quantity, or two-thirds of water; and there is reason to suspect, that creosote, properly diluted, might prove beneficial in some cases. Bourgeois mentions the case of a female, who, obstinately refusing to submit to medical treatment, relieved herself of a very severe attack of the disease, in eight or ten days, by gargling with strong vinegar.

Charleston, January, 1839.

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The preceding Bibliography, though far from complete, is probably sufficiently copious; it would transcend all proper limits, were it to embrace every work that has appeared on the subject. There are a few papers, however, to which we should have been pleased to refer, could we have obtained them or their exact titles; and there are others which must be noticed in the Bibliographies to the Monographs on Scarlatina and Croup, and need not be referred to here. J. H.

BIOGRAPHY.

Art. XI. *A Memoir on the Life and Character of Philip Syng Physick, M. D.* By J. Randolph, M. D.*

Gentlemen:—Permit me to express my sincere acknowledgments for the honor you have conferred, in appointing me to prepare a Memoir of the life and character of the long venerated President of this institution, the late Doctor Physick.

I am quite sensible, that the selection was owing rather to my connection with the illustrious deceased, and the intimate relation which existed between us for a long series of years, than to any peculiar ability I may possess, of recording his many virtues and high qualifications. I am fully aware also, of the weighty responsibility which that man assumes, who undertakes to transmit to posterity a portrait, which, properly executed, may serve as a light and example to illumine and instruct succeeding ages. The effort to accomplish this object I consider, however, a duty which I owe alike to you, and to the memory of Dr. Physick; and I shall endeavour to discharge my obligations in the best manner consistent with my means and abilities.

Most deeply must I deplore, at the commencement of my task, the want of proper materials, which, faithfully recorded, would enable Dr. Physick's great and exalted character fully to develop itself. Many of you, Gentlemen, cannot be ignorant, that the subject of our memoir throughout his whole life, entertained a most invincible repugnance to appear before the public in the shape of an Author; and this feeling induced him to exact the promise that none of his manuscript lectures or letters should be published.

The same modesty of feeling which he possessed to an extraordinary degree, and which forms a principal ingredient in the composition of a truly great and noble mind, caused him also to refuse to comply with the repeated requests made to him, to furnish sufficient facts upon which a sketch of his biography might be founded. Upon one occasion, after urgent solicitations he placed in my possession a few dates and incidents of his life, with the permission to make use of them; excusing himself, however, from completing the materials at that time, upon the plea of his ill health, and promising to furnish them at a subsequent period. His disinclination to fulfil this promise was so obvious that I did not feel myself justifiable in renewing the application.

* [This Memoir was read, in pursuance to appointment, before the Philadelphia Medical Society. To bring it within a compass which would render it more suitable to the pages of this Journal, the editor has, with the permission of the author, somewhat abridged it. The curtailment, however, is principally in the language, the facts are retained. Ed.]

Philip Syng Physick was born in Philadelphia on the 7th of July, 1768. His father, Mr. Edmund Physick, was an Englishman, and was characterised for possessing strong mental powers, with which were united strict integrity and considerable knowledge of the world. Previously to the separation of the United States from Great Britain, he held the office of Keeper of the Great Seal of the Colony of Pennsylvania; and subsequently to the Revolution he took charge of the estates belonging to the Penn family, and served as their confidential agent. Doctor Physick's mother was a most estimable, pious woman, who was blessed with a strong intellect, and evinced throughout her life, great judgment and decision of character. The Doctor never ceased to feel and express, the greatest filial love and reverence for these honoured parents. He frequently declared, that he was convinced that whatever was most useful and excellent in his character, was attributable to the early lessons and impressions which he imbibed from them.

By such parents as these the greatest care and attention would naturally be bestowed upon the education of their children. Fortunately his father had succeeded by great industry and attention to business, in accumulating a property which, in those days, was looked upon as considerable; and being thus in possession of ample means, he was enabled to carry out fully the plan of education which he designed for his son.

In doing so Dr. Physick informed me that his father was influenced by a degree of liberality very unusual in that, or indeed in any age. Double fees which he uniformly transmitted to the teacher testified the great importance which he attached to a liberal education, and the value which he thought should be set upon the sources from which it emanated. This was not only intended for an encouragement to the instructor to use his best endeavours on behalf of his pupil, but because the donor believed the charges for tuition at that day were not a fair equivalent for the services rendered.

Mr. Physick placed his son, when eleven years of age, in the academy belonging to the Society of Friends, in south Fourth street, under the tuition of Robert Proud. At this period Mr. Physick resided in the country, on the banks of the Schuylkill, several miles from the city, at an estate belonging to the Penn family. To facilitate the education of his son, he boarded him in the city, in the family of the late Mr. John Todd, the father-in-law of the present venerable Mrs. Madison.. Even at that early age the subject of our memoir exhibited strong indications of those well regulated habits of order and method which adhered to him so closely throughout his life. Every Saturday after school broke up, he was allowed to go to his father's residence in the country, where he remained until the following Monday morning. He then not unfrequently was obliged to walk into town, and sometimes through most inclement weather. Notwithstanding this, he always presented himself at school exactly at the time of its opening. His teacher was so much gratified with this extraordinary punctuality, that he took pleasure in holding him up as an example to other boys, who, though living in the vicinity of the school, were too apt to be remiss in making their appearance at the proper hour.

Young Mr. Physick remained at this academy until he entered the collegiate department of the University of Pennsylvania. He then passed through the usual course of studies prescribed in that institution, and took

the degree of Bachelor of Arts in May, 1785. I am not aware that any thing remarkable occurred during the period of his collegiate studies.—That he was a diligent and exemplary student cannot for a moment be questioned. It is well known that he was particularly successful in acquiring a thorough and intimate knowledge of the classics, of which he retained sufficient, amid all his engagements, to be able to translate them with facility, to the time of his death.

In June, 1785, he commenced the study of medicine, under the superintendence of the late Dr. Adam Kuhn, well known as the pupil of Linnæus, and a most distinguished and successful practitioner, and then Professor of the Theory and Practice of Medicine in the University of Pennsylvania. Of the particular motives which influenced young Mr. Physick in the choice of this profession I am unable to speak. It does not appear that he at that period evinced any strong predilection for this department of science. Probably he was in a great degree governed by the wishes of his father; and so strong were his feelings of filial obedience that I am very certain that he would at any time readily have yielded his own wishes to those of his parents. The following anecdote is traditionary in the family. His father, whilst handling a knife, had the misfortune to cut one of his fingers; and the wound proved to be so severe that he was obliged to engage the services of a medical friend. Upon one occasion his son begged of him to be permitted to apply the necessary dressings and bandage to the finger: his father consented, and was so much surprised at the great skill and dexterity which his son displayed in making the applications, that he determined to make him a surgeon.

If it be true that we are indebted so exclusively to Mr. Physick for directing his son's attention to the study of medicine, to what an immeasurable extent does it not increase the amount of obligation and gratitude that we owe to him?

Dr. Physick was remarkable through life for feelings of the most acute and susceptible nature. It may be truly said of him that he possessed a soul feelingly alive to the miseries and sufferings of others. He could not himself support pain with an ordinary degree of fortitude, and it is undeniable, that he was extremely unwilling to inflict it upon others. This tenderness of feeling, which existed strongly in the days of his youth, continued in full force as long as he lived, as I shall have occasion to show during the progress of this memoir. He used frequently to declare at this period of his life, that he never could be a surgeon. Little was he aware, that he was destined to afford a complete illustration of the position, that the practice of medicine and surgery, so far from hardening and rendering callous the feelings, has a direct contrary tendency, and serves pre-eminently to soften and refine them. His example, as well as the result of our whole experience upon this subject, demonstrates that for a man to become a great and good surgeon, it is absolutely necessary for him to possess to the fullest extent, the best and kindest feelings of our nature.

The following incident, which occurred to Dr. Physick, and which was in fact characteristic, may not be deemed uninteresting. Soon after he commenced the study of medicine, it was announced that an amputation would be performed upon a certain day, at the Pennsylvania Hospital.—His preceptor, Professor Kuhn, wished him to witness this operation, but

understanding perfectly well the peculiar temperament of his pupil, he advised his father to accompany him; and fortunately too, inasmuch as Dr. Physick became so sick during the operation that it was necessary that he should be led from the amphitheatre before it was concluded.

Dr. Physick continued his medical studies under the superintendence of Professor Kuhn, for three years. In those days it was customary for the student of medicine, previously to obtaining the honours of the doctorate, to go through a much more extensive course of reading than is now deemed necessary. By the direction of his preceptor, Dr. Physick read through most diligently and faithfully, many voluminous works of the older medical writers, some of which, if not absolutely obsolete at the present day, are only used as works of reference. We have abundance of evidence, that even at that early period of his life, Dr. Physick evinced the most resolute determination to qualify himself by every possible means, for assuming a most useful and honourable standing in his profession: and there cannot be a question but that he must have gleaned from amidst this great mass of laborious reading, much valuable information, which he subsequently applied to an excellent purpose.

Dr. Physick's whole deportment during his pupilage, was so perfectly correct and satisfactory, as to merit the entire approbation of Professor Kuhn: and it is well known, that Dr. Physick always cherished feelings of the warmest affection and regard for his venerable preceptor.

In addition to the instruction which Dr. Physick received from Professor Kuhn, he attended at this period the medical lectures delivered in the University of Pennsylvania. He did not, however, graduate in medicine in that institution. The opportunities for the acquisition of medical knowledge offered by the schools and hospitals of this country, then in its infancy, were too limited to satisfy either his conscience or his ambition. He could not convince his mind that his knowledge of medicine was sufficiently enlarged to warrant him in assuming the deep and important responsibilities attendant upon the practice of a profession which involved the lives and happiness of his fellow creatures. For the completion of his education, he entertained an ardent desire to visit Great Britain, and to avail himself of the advantages which were afforded by the great schools and hospitals of London and Edinburgh. His father happily coincided with these views, and determined upon accompanying his son to Europe. Accordingly they embarked in November, 1788, and arrived in London in Jannary, 1789.

Dr. Physick's sole object in going abroad was to acquire medical information. He had no desire to partake of the gaieties and amusements of an European capital. I repeat, with him the grand consideration was the acquisition of knowledge: to this he applied himself with the most ardent devotion, and never permitted amusements of any kind to turn him aside from its pursuit.

Fortunately for Dr. Physick, his father's connections in London were such, that he was enabled to introduce his son to some of the most learned and polished society, of that great metropolis. An intercourse of this kind created for him an influence and gave him opportunities by means of which his cherished views were considerably promoted. All who ever saw Dr. Physick must have been struck with the exceeding dignity and courteousness of his manner. For this no doubt he was principally in-

debted to nature, though it must have been improved and confirmed by his association with the elevated society which he enjoyed whilst abroad. By means of this same influence Mr. Physick succeeded in securing the consent of Mr. John Hunter, then one of the most celebrated anatomists and surgeons of the age, to receive the subject of our memoir under his immediate care and tuition.

Dr. Physick considered this as the most important era in his professional life. He early became convinced of the extraordinary advantages which he might derive from this connection with Mr. Hunter, and proceeded accordingly to devote himself with the most ardent zeal to the study of practical anatomy and surgery. By dint of constant and unwearied application to his studies, aided also by a course of unceasing and untiring dissections, he soon made rapid advancement in the attainment of his objects, and what was also of much consequence, secured to himself the approbation and esteem of his great master. Mr. Hunter, in fact, was so well pleased with the zeal, industry, and correct deportment, of Dr. Physick, that he took pleasure in acknowledging him as a favourite pupil, and bestowed upon him, with the most unreserved confidence, the full benefit of his advice and experience. During this period Dr. Physick attended regularly the lectures delivered by Mr. John Clark and Dr. Wm. Osborne on Midwifery.

Among the manuscript papers left by Dr. Physick which have fallen into my possession, is a note book, kept by him during his stay in England, in which he recorded such facts and incidents as came under his observation, which he supposed might be of service to him subsequently. I take the liberty of making two or three extracts from these notes, in order to exemplify the careful manner in which he performed this duty, and the pains which he took to treasure up all the information which he gained.

"*February*, 1789.—Visited Mr. Hunter. In the evening, after being entertained with tea, coffee, and general conversation, Doctor Baillie exhibited a preparation." [He then goes on to describe the preparation; which, although exceedingly interesting to the medical profession, it would not be proper to insert here.]

"*February*, 1789.—Mr. Home performed an operation on a sheep which had the staggers, in the following manner. After making a crucial incision through the integuments of the cranium, he applied the trephine, and removed a portion of the bone from the upper and middle part of the cranium. When this was done, he introduced a pair of small forceps, with which he extracted a tænia hydatigena. The effect was, that the sheep, being set at liberty, stood on its legs, which before it could not do. This, however, was only a temporary amendment, as it died about twenty hours after the operation was performed."

"*November* 15, 1789.—Mr. Cruickshank related the particulars of a case of hydrothorax, in which, upon opening into the right side of the chest, he evacuated nine pints of water, and in the left side there was found one pint. The lung of the right side was compressed to a small size, and instead of feeling spongy as common, it was solid and fleshy, and quite incapable of being dilated by air, so that the respiration was carried on by the left lung altogether. The patient, during his life, was incapable of sitting or standing up, feeling great pain when he attempted it; but was quite easy in bed when lying on his right side, but could not lie on his left side. His pulse, for near two months before his death, was quite regular, though before that time it had been otherwise, and the apothecary who had attended him had suspicions of hydrothorax. There was a swelling in the abdomen, which was very painful to him. This proved

to be a cancerous tumour of the whole of the omentum, which, being very heavy, when he attempted to get up gave him the pain mentioned before."

"Mr. Cruickshank said that he saw a case of hydrothorax where there was no pulsation to be felt, either in the carotids, or in the arteries at the wrists, or in the groin, nor could any motion be perceived at the part where the heart is usually felt pulsating; and the patient continued in this state for two months."

Dr. Physick continued to prosecute his studies with the most exemplary perseverance and industry, under the immediate superintendance of Mr. Hunter, throughout the year 1789. On the first of January, 1790, he was appointed House Surgeon to St. George's Hospital for one year, the usual period of that service in the institution. This appointment he owed exclusively to the patronage and influence of Mr Hunter. The advantages of such a situation to the student of medicine, in facilitating his acquisition of practical knowledge and skill, were of the most important character; and were so well known as to cause the place to be sought after by numerous applicants, most of whom, from the circumstance of their English birth alone, it might be supposed, could have had an influence which would have rendered them successful competitors against a foreigner for the place. Here were exemplified in the most happy manner, the important advantages which Dr. Physick derived from the favourable impressions which Mr. Hunter had imbibed respecting his general worth, his talents, and his acquirements. These considerations induced Mr. Hunter unhesitatingly to exert the whole of his influence in behalf of Dr. Physick, with what effect has been stated.

A few months after this period, Dr. Physick had so severe an indisposition, that Mr. Hunter became alarmed about him, and was on the eve of insisting upon his return to America. This attack, no doubt, was principally owing to the laborious life which he led, and the close confinement to which he subjected himself. Providence, however, for its own wise and beneficent purposes, thought proper to restore him to health, to the great delight and gratitude of his parents and friends.

It was during the period of his remaining at St. George's Hospital, that Dr. Physick acquired a vast deal of that surgical skill and dexterity which laid the foundation of his subsequent greatness. Having his whole time occupied in administering to the wants of such unhappy objects as were suffering from the effects of accidents or disease; being constantly engaged in applying the necessary bandages and dressings to fractured bones, dislocations, wounds, and injuries of every description, and seizing hold, as was his invariable custom, of every such opportunity of making himself minutely acquainted with the most perfect manner of performing these services, he soon became remarkably expert in all his manipulations, and acquired a degree of experience which increased greatly his stock of practical knowledge. He indeed exhibited a degree of neatness and dexterity in the application of bandages and dressings never excelled probably by any other surgeon.

During the period of his services in this institution, he learned also the manner of constructing and contriving several kinds of instruments and apparatus, which he subsequently was the first to introduce into this country, to the great benefit of our art.

An anecdote frequently related to me by Dr. Physick, connected with his early appointment to St. George's Hospital, I may be pardoned for mentioning here, notwithstanding it has already been promulgated from

another source. His success in obtaining this situation caused some slight degree of dissatisfaction on the part of some of the disappointed applicants, who conceived that their claims for the situation were stronger than his. In consequence of this, Dr. Physick perceived that they evinced uncommon curiosity respecting his manner of discharging his duties, and were disposed to scrutinise his actions with the greatest strictness. A short period after commencing his services, a patient was admitted into the hospital with dislocation of his shoulder; the head of the humerus being lodged in the axilla. Fortunately the accident was quite recent. It so happened that at the time the man was admitted, the whole class were in attendance at the house. They, of course, were exceedingly anxious to witness the manner in which the reduction would be effected, and Dr. Physick was well aware that his method of restoring the bone to its natural situation would be severely criticised. He directed the patient to be seated upon a high chair, and then proceeded to examine the injured shoulder, questioning the man as to the manner in which the accident had occurred. Whilst making these inquiries, he placed his left hand in the axilla, and taking hold of the lower end of the humerus with his right hand, he made all the extension in his power, then suddenly depressing the elbow of the patient, he dislodged the head of the bone, which glided instantaneously into the glenoid cavity.

In relating this incident, Dr. Physick never assumed to himself much merit for his success, but rather ascribed it, in a great degree at least, to the favourable nature of the case. His characteristic modesty, however, induced him to underrate his services; his success was doubtless principally owing to that unrivalled address and dexterity of which he subsequently proved himself to be so complete a master. The treatment of this case produced the most happy influence in promoting the interest and comfort of the doctor during the remainder of his stay in the hospital. He stated that from that time forward he always enjoyed the uninterrupted regard and respect of the medical class.

In January, 1791, the period for which he had been elected to St. George's Hospital having expired, he quitted the institution, carrying with him the warmest testimonials, from its proper authorities, of his medical qualifications, and also of his general good conduct. They went so far as to declare, that instead of considering him to lie under any obligations to the institution, they considered the institution indebted to him for the many benefits he had conferred upon its unhappy inmates, and for the useful results which had been produced by his singular zeal and abilities. He now received his diploma from the Royal College of Surgeons in London.

Soon after leaving St. George's Hospital, Dr. Physick received from Mr. Hunter a mark of respect and esteem, which was in the highest degree gratifying to him, and more particularly so as it furnished conclusive evidence of Mr. Hunter's entire confidence in his professional skill and attainments. Mr. Hunter invited him to take up his residence with him, to become an inmate of his house, and to assist him in his professional business; he also held out inducements to him to establish himself permanently in London.

Notwithstanding the tempting nature of these offers, and the great advantages which Dr. Physick might have derived from accepting them, it did not comport with either his own designs, or those of his father, that he

should exile himself from his native country. In accordance with the plan previously laid down for the completion of his medical education, he was to visit Edinburgh, in order to graduate in medicine in the University of that city. He, however, gratefully accepted Mr. Hunter's invitation to reside with him until this period should arrive; and accordingly he remained with Mr. Hunter, and assisted him, not only in his professional business, but also in the prosecution of his physiological experiments, and the making of anatomical preparations, until May, 1791, when he took his final leave of London. I may notice that his father had, previously to this period, returned to America.

The parting between Mr. Hunter and Dr. Physick was painful to the latter to an extreme degree, and certainly the most distressing event which occurred to him during his stay in London. The ties which bound him to Mr. Hunter were of no ordinary description. Mr. Hunter had not only extended towards him the warmest friendship and regard, but had also conferred invaluable benefits upon him, by giving him the advantages of his powerful aid and influence, and by promoting, by all the means in his power, his medical researches. These obligations could only be acknowledged on the part of Dr. Physick, by the most sincere and ardent devotion to his beloved preceptor; and in fact the admiration felt for Mr. John Hunter by Dr. Physick amounted to a species of veneration; he never ceased to consider him as the greatest man that ever adorned the medical profession. Could his honoured master have been permitted to witness the closing career of his pupil, he would have felt himself amply recompensed by the rich harvest of fame and usefulness which the latter had gathered, in consequence of his valuable aid and instructions.

Immediately after his arrival in Edinburgh, Dr. Physick entered with his usual ardour upon the prosecution of his studies. He attended very diligently the medical lectures delivered in the University, visited constantly the Royal Infirmary, was a careful observer of the practice pursued in that institution, and witnessed all the operations there performed. In May, 1792, having complied with all the requisitions demanded by the University, he obtained the degree of M. D. The subject of his thesis was apoplexy; and in compliance with the established regulations it was written in the Latin language. The original manuscript of this essay, which he first wrote in English, is now in my possession, and bears the most satisfactory evidence of having been prepared with a vast deal of careful attention.

To show the familiar knowledge of the Latin language which Dr. Physick possessed, I may relate the following anecdote. It is well known that the examinations for a medical degree in Edinburgh are conducted in Latin; and that there are many applicants for the honour who from not possessing a sufficient knowledge of that language are compelled to have recourse to the aid of a class of men termed *grinders*, whose occupation consisted in preparing students, by a system of drilling which should render them competent to reply to such questions as were likely to be put to them. It so happened that, a short time previous to the examinations, Dr. Physick was in company with a fellow-student from this city, and in reply to some allusion made by his companion to these grinders, the Doctor stated that he should not seek their aid, but that he was determined to rely upon his own knowledge of the language to carry him

safely through. His companion expressed much surprise at this statement, seeming to consider it as a vain boast on the part of Dr. Physick; and he intimated his doubts of the Doctor's capabilities, inquiring whether he meant to say that he possessed a sufficient knowledge of the Latin to enable him to carry on a conversation in that language. Dr. Physick satisfied him completely, by instantly addressing him in Latin, and continuing for some time to converse with him in that tongue.

Dr. Physick did not leave Edinburgh immediately after obtaining his honorary title: he remained there for a short period; and the manner in which he occupied himself may be fairly illustrated by the following extract from his note book.

"*June*, 1792.—Prepared for the house surgeon at the Royal Infirmary, Edinburgh, an intussusceptio, in which the ileum had passed into the colon, and at last dragged down six inches of the colon. Most probably there was a stricture formed about the termination of the ileum, near the valve, as there were strictures in other parts of the intestines. At present a stricture of the ileum at this part certainly exists, but whether that did not arise from the binding of the inverted colon, and the inflammation consequent thereon, I cannot be sure. I was not present at the dissection of the body, and the person who took out the parts tore them very much."

Dr. Physick returned to his native country in September, 1792; and commenced the practice of his profession in Philadelphia. His office was situated in Mulberry Street near Third. That Dr. Physick entered upon his practical career under the most favourable circumstances will, I think, be readily admitted. I have already shown that, in addition to his own extraordinary qualifications, he had enjoyed the most ample opportunities of acquiring knowledge from sources distinguished alike for their exalted character and superior excellence. Nature also rendered her best aid for fitting him pre-eminently, by all external advantages, for the successful accomplishment of his objects. His personal appearance was commanding in the extreme. He was of a medium height; his countenance was noble and expressive; he had a large Roman nose; a mouth beautifully formed, the lips somewhat thin; a high forehead, and a fine penetrating hazel eye. The expression of his countenance was grave and dignified, yet often inclined to melancholy, more especially when he was engaged in deep thought, or in performing an important and critical operation. Dr. Physick rarely indulged in excessive mirth; he was, however, far from being insensible to playful humour, and on such occasions his countenance would be lighted up by a benign smile, which altered entirely the whole expression of his features. His manners and address were exceedingly dignified, yet polished and affable in the extreme; and when he was engaged in attendance upon a critical case, or in a surgical operation, there was a degree of tenderness, and at the same time a confidence, in his manner, which could not fail to soothe the feelings and allay the fears of the most timid and sensitive.

The introduction of a young practitioner of medicine to the notice of the community, is proverbially slow; and not unfrequently, before he can inspire a sufficient degree of confidence to lead to his employment, a length of time is requisite which, in some instances, produces bitter disappointment, and occasionally even utter hopelessness and despair. As might have been anticipated, there were but few professional calls made

upon Dr. Physick during the period of the first year after he had established himself in this city; and it is highly probable that, notwithstanding all the advantages of which he could boast, he would have been obliged to exercise an enduring degree of patience for a considerably longer period, were it not that in the summer of 1793, Philadelphia had the misfortune to be visited with that awful calamity, the yellow fever. It is not necessary in this place to give an account of the destructive ravages caused by this epidemic. The most ample and detailed description of its origin and progress, with all its concomitant circumstances, has been furnished by one of the brightest luminaries of the age; one who was a most prominent and efficient actor in the tragical scene; whose disinterested patriotism, brilliant imagination and splendid acquirements endeared him to the hearts of his countrymen, and who invariably evinced himself to be the warm friend of Dr. Physick. Need I add the name of Dr. Benjamin Rush!

The occurrence of the yellow fever afforded to Dr. Physick his first opportunity of proving to his fellow citizens his entire devotion to his professional pursuits, his utter disregard of all personal considerations which might interfere with the discharge of his duties, and the fearless intrepidity with which he exposed himself to danger, in order to contribute to the safety of others. As a means of preventing an extension of the disorder by removing, as far as possible, from overcrowded situations those who were attacked by it, and also to afford an asylum and the most efficient treatment to such as were destitute, the Board of Health, in August, 1793, established the yellow fever hospital at Bush Hill, and Dr. Physick, having offered his services, was elected by them physician to the institution. He immediately proceeded to the performance of his duties with singular ardour and ability; and during the time he remained in the hospital, rendered services which were acknowledged to be of the most important character, and which served to secure to him the approbation and esteem of the community at large. Dr. Physick himself did not escape an attack of the fever. It however yielded to treatment, although I heard him declare, but a short time previous to his death, that he did not think his constitution had ever completely recovered from the shock which it then received.

During a period of such general distress, history has at all times shown that the minds of the people are very apt to become excited and inflamed; and some threatening indications of riotous conduct having been exhibited whilst Dr. Physick was serving in the Bush Hill hospital, he was created an Alderman by the Governor of the State of Pennsylvania, for the purpose of enabling him to quell disturbances.

The publicity which Dr. Physick obtained, together with the favourable impression which he produced during his residence in the hospital, led to acquaintances which subsequently assisted in promoting his professional success. Among others, whose lasting friendship he then secured, was that of our late fellow citizen, Stephen Girard, at that melancholy epoch a member of the Board of Health, and who rendered the most important services throughout the epidemic, in alleviating the miseries and providing for the wants of the unhappy sufferers; services which should never be forgotten.

Mr. Girard was well known to have been a man of very eccentric habits

and strong prejudices. One of his peculiarities consisted in a general dislike of physicians; a prejudice founded upon his ignorance, and a vain belief that he knew as well from his own experience how to treat diseases, as most men who were regularly educated to the profession. He, however, made a few exceptions; and one of these was Dr. Physick, to whom, as long as he lived, he resorted for medical advice and assistance, whenever he deemed the case critical. Mr. Girard finally died a victim to his prejudices: he was attacked with an inflammation of his chest, and would not consent to lose blood until too late.

Dr. Physick, I believe, was the first to promulgate the doctrine, founded upon his own observations, that the yellow fever was not contagious; he also fully coincided with Dr. Rush in the opinion that it was of domestic origin. Dr. Rush at first dissented from the doctrine of the non-contagious character of yellow fever, but subsequently became convinced of its truth and importance. During the prevalence of the epidemic, Dr. Physick, in conjunction with Dr. Cathrall, made a series of post mortem examinations, which went far, not only to elucidate the true nature of the disorder, but also to indicate the best method of treatment. These dissections proved satisfactorily that the complaint was of a highly inflammatory character, that the stomach more particularly was the seat of great inflammation, and consequently confirmed the propriety of the antiphlogistic method of treatment instead of that of an opposite character, which had generally been employed. Thus Dr. Physick preceded the celebrated Broussais in pointing out the intimate relations which subsist between the condition of the stomach and the production of bilious and yellow fevers. It is well known, that as far back as the period to which we are alluding, Dr. Physick pronounced yellow fever to be gastritis; and he was so much influenced by his opinions of the necessity of avoiding all causes which could prolong or excite the gastric irritation that in one instance he ascribed the death of a patient labouring under this malady, to a relapse produced by swallowing a small quantity of chicken water.

After leaving the hospital he removed to the city and gave his undivided attention to his professional engagements. In the year 1794, Dr. Physick was elected, by the managers of the Pennsylvania Hospital, one of the surgeons to that institution. This period was the dawn of his great surgical fame and usefulness. The reputation sustained by the Pennsylvania Hospital for a long series of years, not only for the amount of benefits which it has conferred, but also on account of its excellent administration, are so well known as to render superfluous any encomiastic notice of it on my part. That Dr. Physick contributed largely to the support of its character and reputation, can be readily shown by a record of his services. It must be admitted, however, that his appointment to the hospital had a considerable influence in promoting his success, and leading to an extension of his business. The situation enabled him to add greatly to his stock of experience, and afforded him ample opportunities of perfecting himself in the operative department of his profession. I have already stated that in his manual procedures he exhibited the utmost degree of neatness and dexterity. Dr. Physick possessed pre-eminently all the qualifications requisite for a bold and successful operator. His sight was remarkably good; his nerves, when braced for an operation, were firm and immovable; his judgment was clear and comprehensive, and his re-

solutions once formed, were rarely swerved from. In addition to these he owed much to his thoughtful and contemplative cast of character, which induced him to deliberate and reflect intensely upon all the circumstances of his case, and to make elaborately beforehand every preparation which might become needful in the performance of his task.

In order to appreciate fully and correctly the amount of contribution, made by Dr. Physick to the department of surgery, it is important to call to mind the imperfect condition of the art in this country, at the period of his commencing his professional career. It is well known that the principles of science which should govern the treatment of many disorders were at that day very imperfectly understood. It is true that there were some members of the profession, possessed of great merits and learning, who devoted themselves especially to the cultivation of surgery. These gentlemen were quite competent to the performance of what were then considered the capital operations in surgery; still it must be confessed that none of them ever acquired the necessary degree of skill and pre-eminence to create an unlimited confidence in his abilities. In consequence of this there was no head, no rallying point in surgery, an appeal to which, when once made, would be regarded as decisive. We cannot feel surprised at the comparatively insignificant position which the science of surgery then held, when we reflect that, prior to the appointment of Dr. Physick, surgery was not taught in this city as a separate and distinct department. The professorships of anatomy and surgery were combined in the University of Pennsylvania, and the duty of teaching both branches devolved upon one individual. Under these circumstances it would have been extremely unreasonable to expect an efficient course of instruction when it is well known that the usual period allotted to a course of lectures upon either department, as now separated, is confessedly too limited.

Soon after Dr. Physick's appointment to the Pennsylvania Hospital, his mind became engaged in the consideration of a class of disorders of which that institution then had, and continues to have its full proportion, namely, ulcers. The treatment of these affections was at that day but little understood by our surgeons, and was for the most part exclusively empirical; consequently it was notoriously unsuccessful; and I am sorry to say, that there are good reasons for believing that limbs, affected with ulcers were not unfrequently amputated, which, by a judicious and skilful treatment, might have been preserved.

Dr. Physick devoted himself in an especial manner to ameliorating the condition of this class of patients, by establishing a more correct and efficient method of treatment; and in a short time the success of his practice was so evident as to add not a little to his rising fame and greatness. I have been told that at a very limited period after commencing his services, he had almost entirely cleared the wards of patients affected with ulcers. His method of treatment in cases of inflamed and irritable ulcers was exceedingly simple. He directed the patient to be confined to bed, enjoined rest; and where the ulcer was situated upon a lower extremity, he caused the limb to be considerably elevated. He next directed mild and soothing applications to be made to the ulcer itself; and in conjunction with this he made use of proper constitutional treatment. Where the ulcer partook of an indolent nature, he always preferred effecting the re-

cessary stimulation by means of local applications, whilst the patient was confined to bed, to permitting him to walk about, as sometimes recommended.

Dr. Physick, during the period of his services in the Pennsylvania Hospital, made several valuable improvements in the treatment of fractures. Without entering minutely into the consideration of these, I may refer to his modification of Desault's apparatus for the treatment of fractures of the thigh. By increasing the length of Desault's splint, Dr. Physick accomplished a most important object, causing the counter-extension to be made more nearly in the direction of the axis of the limb, and also in keeping the patient more strictly at rest. This apparatus of Desault, thus modified by Dr. Physick, and with the block attached to the lower extremity of the splint by Dr. Hutchinson, for the purpose of making the extension in the direction of the limb, has been used in the Hospital for a long series of years, with the happiest results. Dr. Physick never ceased to regard it as the most complete and successful method of treating fractures of the thigh.

Fractures of the humerus occurring at or near the condyles, are exceedingly apt to be followed by a projection of the elbow. In some instances the deformity is so great as to give rise to most disagreeable consequences, more especially where the accident happens to a young female. To Dr. Physick is due the credit of having invented a method of treatment which has succeeded in many instances in effecting a complete cure, without the occurrence of any deformity. This treatment consists in applying to the injured limb two angular splints, which should extend from near the shoulder down to the extremities of the fingers. In addition to this he directs the patient to be kept in bed, "with the arm flexed at the elbow, and lying on its outside with the angular splints, supported by a pillow."

In cases of fracture of the lower end of the fibula, where the accident is accompanied with dislocation of the foot outward, Dr. Physick was in the habit, many years since, of treating the fracture upon a plan precisely similar to that recommended by Baron Dupuytren. To which of these gentlemen is due the priority of the invention, I am unable to say.

In the treatment of dislocations, the highest commendation is due to Dr. Physick, for being the first to carry into full effect a plan of treatment which, although originally suggested by Doctor Alexander Munro, of Edinburgh, was never put into execution, so far as I can learn, prior to its employment by Dr. Physick. I allude to the use of copious bloodletting, carried, when necessary, even ad deliquium animi, in order to produce a complete relaxation of the muscular system, and thereby facilitate the reduction of the dislocated bone. By this method of treatment, in very many instances, old and difficult dislocations have been reduced, which otherwise would have been irremediable, and limbs thus restored to usefulness.

In the year 1794, Dr. Physick was elected one of the physicians to the Philadelphia Dispensary; and during the period he held this appointment, he performed his duties with the strictest fidelity. He subsequently was appointed one of the consulting surgeons to this institution, and retained the situation till the time of his death.

From a reference to Dr. Physick's papers, it appears, that his profes-

sional engagements increased very considerably in the year 1795. About this period, his prospects of establishing himself in practice became exceedingly flattering. During the year 1795, he commenced keeping a journal of the most remarkable and interesting cases which occurred in his practice, more especially those of a surgical character. This journal is continued up to the year 1810, although in consequence of the multiplicity of his engagements about this period, we have to regret, the number of cases inserted is very considerably lessened. The first case recorded in the note book, is that of a lady affected with blindness from cataract. In this case, he performed the operation of extraction of the opaque crystalline lens, with complete success, and restored his patient to sight.

I may mention here that Dr. Physick's favourite operation for cataract was that of extraction, and he always performed it whenever the condition of the eye was suitable. He acquired such a perfect degree of skill in extracting the lens, that his operations were almost invariably followed by success. I am of opinion that his operations upon the eye, in conjunction with those for stone in the bladder, did as much in establishing his great surgical character as any others which he performed. Operations of this nature, when successfully executed, in that day, were widely known. His first operation of lithotomy was not performed, however, until the year 1797. He subsequently performed it, as is well known, in numerous instances, with extraordinary facility and success. In performing his first operation of lithotomy, he accidentally divided with his gorget the internal pudic artery. The hemorrhage from the wounded vessel was exceedingly profuse. He immediately compressed the trunk of the artery with the fore finger of his left hand, next passed the point of a tenaculum under it, and a ligature was then cast round it and firmly tied. This of course arrested the hemorrhage, but the ligature included along with the artery a considerable portion of the adjacent flesh. To obviate this inconvenience Dr. Physick subsequently contrived his celebrated forceps and needle, for carrying a ligature under the pudic artery. Since that period this instrument has been in general use for securing deep seated vessels. It has twice been successfully employed in the operation of tying the external iliac artery; in the first instance by the late lamented Doctor Dorsey, a favourite nephew of Dr. Physick's and one to whom he was ardently attached, and in the second instance by myself. No higher commendation could be bestowed upon this instrument than may be inferred from the numerous modifications which have since been made of it. I must be permitted to declare, that in my opinion, the original instrument, as designed by Dr. Physick, has never been excelled, either in point of ingenuity or utility.

To facilitate the division of the prostate gland and neck of the bladder, in the operation of lithotomy by means of the gorget, Dr. Physick suggested a valuable improvement to the instrument as used by Mr. Cline, which has since been almost universally adopted in this country, and has received the entire sanction and approbation of our most distinguished surgeons. A full description of Dr. Physick's gorget was published in the year 1804, in Coxe's "Medical Museum." The modification consists in having the gorget so constructed, that a perfectly keen edge may be given to that part of the blade which commences the incision, and which is connected to the beak of the instrument. For this purpose the beak and blade are separable, and so arranged that the blade may be connected to

the stem and firmly secured by a screw. Without this arrangement it is exceedingly difficult to impart a fine edge to that part of the blade which is contiguous to the beak, and inasmuch as the incision of the neck of the bladder is commenced at that point, the success of the operation must necessarily be much influenced by it.

During Dr. Physick's attendance at the Pennsylvania Hospital, in the year 1796, a case occurred in which the patient, a young man, had laboured under a suppression of urine for forty-eight hours. The bladder was so much distended that it rose above the umbilicus, and the patient was suffering intense agony. Dr. Physick made repeated attempts to introduce catheters of different sizes into the bladder, in order to draw off the urine, but without success. He next took a bougie and succeeded in introducing it into the bladder, but upon withdrawing the instrument, no urine followed. The idea then struck him that he might fasten the point of a bougie upon the extremity of an elastic catheter, so as to conduct the catheter into the bladder and allow the urine to flow through it. He immediately carried his plan into execution, and succeeded most happily in completely relieving his patient. Since then this method has been frequently resorted to with great success, in cases where, owing to enlargements of the prostate gland, strictures of the urethra, and other causes, the common catheter could not be passed into the bladder. Dr. Physick communicated an account of this case to Dr. Miller, which is published in the New York Medical Repository, vol. vii. p. 35, together with his method of preparing the instrument, subsequently described in Dorsey's Elements of Surgery; some experiments on the treatment of gum elastic by spirit of turpentine and ether, and, also a method of coating catheters with gum elastic.

In the treatment of strictures in the urethra, Dr. Physick displayed the most enviable degree of skill. It is true, he made the management of this disorder a particular study, and the tact and dexterity which he exhibited in dilating a stricture, was sufficient to excite the warmest admiration.—What department of surgery indeed was there which was not in some way or other enriched by his labours? Among his other contributions, however, let us notice his invention of an instrument, in the year 1795, for the purpose of cutting through a stricture which had refused to yield to the ordinary methods of treatment. This instrument consists in a lancet concealed in a canula, which is passed down the stricture, and then the lancet is pushed forward so as to effect its division. Afterwards, a catheter or bougie should be introduced and worn for some time, in order to produce the necessary permanent dilatation. The success attending this method of treating strictures, which have resisted all other attempts at dilatation, has now become familiar, and may be considered one of the most important and useful operations in surgery. It should be stated also, that in some cases of complete retention of urine from stricture of the urethra, this method of dividing the stricture by means of the lancet has obviated the necessity of puncturing the bladder.

If I mistake not, Dr. Physick was the first who pointed out to our surgeons the method of constructing the waxed linen bougie. He informed me that soon after his return from Europe he was engaged in attendance upon a patient, in conjunction with his much esteemed friend Dr. Wistar. It so happened that in the treatment of this case there was occasion for a

bougie of a particular size and shape. Dr. Wistar regretted very much not possessing such an instrument, and he expressed his doubts of being able to procure one. Dr. Physick told him that he need not be uneasy, for that he would furnish the instrument; and accordingly he constructed one himself of the precise kind which they wanted, to the great surprise and gratification of Dr. Wistar.

I may mention that in the treatment of strictures of the urethra, Dr. Physick invariably preferred using waxed linen bougies of his own make to either the metallic or imported gum elastic bougies. I do not hesitate to assert, however, that from long practice and dexterity, he acquired the art of making a most beautiful and perfect instrument of this kind. It is proper, however, to state, that the gum elastic bougies which were imported into this country in that day, were of a very inferior quality to those which we now have. A general account of the method of preparing the waxed linen bougies is contained in "Dorsey's Elements of Surgery."

During the years 1797, 1798, and 1799, the yellow fever reappeared in our city, and Dr. Physick was again found in the foremost rank of those who had to contend against its ravages. Whilst engaged in the performance of his duties, in the year 1797, he was attacked himself, for the second time, with the fever, and his illness was so severe that for some time but slight hopes were entertained of his recovery. His convalescence was exceedingly slow, and he was left in such an enfeebled state that he was advised by his medical friends to make an excursion into the country, in order to recruit his strength. He accordingly took this opportunity of paying a visit to his brother, who was living upon a beautiful farm, situated on the banks of the Susquehannah, in Cecil county, Maryland. He was somewhat amused, whilst performing this journey, at being informed by an innkeeper on the road that Dr. Physick of Philadelphia was dead. His health was greatly benefitted during the period of his sojourn with his brother, and it appears that he conceived a warm attachment to the place; inasmuch as after the death of his brother, many years subsequently, he became the purchaser of the estate, and during the latter years of his life he was accustomed to spend a part of every summer upon it.

During the prevalence of the yellow fever in 1798, Dr. Physick was again resident physician at the Bush Hill Hospital; and upon leaving the institution, after the subsidence of the epidemic, he was presented in a flattering manner by the board of managers, with some valuable silver plate, as an acknowledgment of their "respectful approbation of his voluntary and inestimable services."

In the winter of 1798, Dr. Physick read before the "Academy of Medicine of Philadelphia," an account of "Some Experiments and Observations on the mode of operation of mercury on the body." This paper was subsequently published in the New York Medical Repository, vol. v. p. 288. The result of these experiments and observations goes to disprove the opinion that the different preparations of mercury produce their effects on the system in consequence of their being absorbed and carried into the blood. The experiments made by Dr. Physick in order to detect the presence of mercury in the blood and saliva of patients undergoing salivation from that article, were repeated by Dr. Seybert, but both were unable to discover the presence of the metal, owing to the imperfect state of chemistry at that period.

I have already stated, that in consequence of the untiring zeal of Dr.

Physick in investigating the nature and phenomena of the yellow fever, aided by the ample opportunities which he enjoyed of prosecuting his researches, he was led to the adoption of some views which were not only of an interesting and novel character, but such also as had a most important bearing in elucidating the true pathology of the disease, and in establishing in consequence more correct therapeutic indications. It was after the subsidence of the epidemic of 1799 that he published in the New York Medical Repository, "Some Observations on the Black Vomit." In this communication he relates a series of careful and well conducted experiments, which prove most conclusively that the matter of black vomit, so far from being poured out by the vessels of the liver, as was the commonly received opinion, is produced by a secretion from the inflamed vessels of the stomach and intestines. These observations, showing that the effusion of black vomit must be regarded as one of the modes in which violent inflammation of the stomach has a disposition to terminate, not only went far in destroying the preconceived notions entertained by many physicians, that the yellow fever was a disease of debility, and that the black vomit was to be regarded as a putrid phenomenon, but also confirmed most satisfactorily the propriety of the antiphlogistic method of treatment.

The year 1800 formed a most eventful one in the life of Dr. Physick. During this year he formed a matrimonial alliance with Miss Elizabeth Emlen, a highly gifted and talented lady, and daughter of one of the most distinguished ministers of the Society of Friends. By this marriage he had four children, two sons and two daughters, all of whom are now living.

In the year 1800, a request was made to Dr. Physick in writing, by a number of gentlemen engaged in attending the medical lectures delivered in the University of Pennsylvania, that he would lecture to them on surgery. Among these gentlemen, who so fully appreciated his extraordinary qualifications, was included our present pre-eminently distinguished Professor of the Theory and Practice of Medicine, Dr. Chapman.

No man could feel more deeply the solemn responsibilities attendant upon such an enterprise than Dr. Physick. After mature deliberation, however, he determined to accede to their request, and this may be considered as the commencement of his labours as a lecturer.

The following anecdote, related to me by the doctor himself, will exemplify the ardour and zeal with which he entered upon the performance of his duties, and it illustrates also most happily the great advantages which may be derived from a word of encouragement and approbation, coming from a source in which entire confidence is reposed.

After preparing the lecture introductory to his course, he committed it to memory. Among the persons invited to be present at its delivery was his valued friend, Dr. Rush. The scene was a trying one to Dr. Physick. It was the first time he had ever publicly addressed an audience. I have been informed, however, that he acquitted himself extremely well. At the close of the lecture, Dr. Rush stepped up to him, gave him his hand, and congratulated him upon his success, saying to him very emphatically, "Doctor, that will do—that will do—you need not be apprehensive as to the result of your lecturing—I am sure you will succeed." Dr. Physick never forgot Dr. Rush's kind manner to him on this occasion. He assured me that it exerted a considerable influence in strengthening and confirming his resolutions to persevere. It is needless for me to say that

Dr. Rush's predictions respecting Dr. Physick's ultimate success in lecturing were fulfilled to the utmost. Five years subsequently to that period, the Professorship of Surgery was created in the University of Pennsylvania, and Dr. Physick was elected to the chair.

In the year 1801, Dr. Physick was appointment "*Surgeon Extraordinary*," and also one of the physicians, to the Philadelphia Almshouse Infirmary. I am not aware that any appointment similar to the former has been since made in that institution.

In 1802, he published in the New York Medical Repository, a case of hydrophobia. In this communication he gives an account of the appearances observed on dissection; and as a means of affording relief in similar cases, he suggests, in conjunction with other remedies, the propriety of performing the operation of tracheotomy. The following quotation is sufficiently explanatory of the views which he entertained.

"Reflecting on the symptoms which took place in the case above related, it appeared to me, that the dread of water arose chiefly from the convulsive or spasmodic contraction of the muscles of the glottis, which rendered the patient unable to breathe, and involved him in all the horrors of impending suffocation. When asked why he could not drink, he answered, that whenever he attempted to swallow any thing it took his breath away."

"Under the influence of these opinions, I am disposed to believe, that tracheotomy would have saved my patient, at least for a time, if it had not altogether prevented the fatal termination of the disease. I cannot suppose that the spasms of the muscles in hydrophobia would be attended with much danger to life, were it not for their influence in suspending respiration." * * * *

I am not informed that he ever had an opportunity of testing the value of the foregoing suggestion, by the performance of the operation.

About this period, it may be said that the talents and acquirements of Dr. Physick began to be extensively known and appreciated, not only by the members of his own profession, but also by others. I may mention, that in this same year, (1802,) he was elected a member of the American Philosophical Society, a well merited tribute due to his rising greatness.

This year Dr. Physick devised and executed an operation which forms one of the most brilliant achievments of modern surgery, and has been productive of the most beneficial results to suffering humanity. On the 18th of December, he performed, in the Pennsylvania Hospital, his celebrated operation of passing a seton between the ends of an ununited fractured humerus, for the purpose of causing a deposition of callus, and thereby producing the consolidation of the broken bone. The patient was a seaman, who had had the misfortune to fracture his left arm, eighteen months previously, whilst at sea; and in consequence of the bones not having united, the limb was rendered nearly useless. At the expiration of five months after the performance of the operation he was discharged from the Hospital perfectly cured. Dr. Physick published an account of this case in the Medical Repository of New York, vol. i. 1804; and it was republished entire in the Medico-Chirurgical Transactions of London, vol. v. 1819.

It so happened that, in the year 1830, I was requested to visit a patient who was lying dangerously ill with remitting fever. A few days after my first visit, in riding past his door in company with Dr. Physick, feeling very uneasy about the condition of my patient, I requested the Doctor to step into the house and give me the benefit of his advice. He complied,

and upon entering the sick man's chamber he immediately recognised him as the individual upon whom he had performed the operation which I have just described, twenty-eight years previously. Upon questioning the patient he informed us that the arm which had been broken was quite as strong as his other arm, and that he had never sustained any inconvenience from the operation. The man died; and having obtained permission to make a post mortem examination, I procured his humerus, which I still have in my possession, and regard it as one of the most interesting and valuable pathological specimens extant. At the place of fracture, the two ends of the bone are perfectly consolidated by a mass of osseous matter, in the centre of which there is a hole, through which the seton had passed.

Since the performance of Dr. Physick's first operation, this method has been resorted to with entire success in numerous instances by himself and other surgeons, for the cure of ununited fractures, not only of the humerus, but also of some other bones. That this operation, like all others, occasionally fails, must be admitted; it is, however, generally conceded that it possesses many advantages over the method not unfrequently resorted to, of cutting down to tho ends of the bone and sawing them off, as recommended by Mr. Charles White, of Manchester.

In describing that process M. Boyer declares it to be "painful, terrifying, and of dubious event." He once performed it on account of a preternatural joint, situated in the middle of the humerus; the limb mortified, and the patient died on the sixth day. Independently of the greater hazard attending this method of operating, it is unquestionably much more painful than Dr. Physick's; and although occasionally it succeeds perfectly, in many instances it has entirely failed.

It is a matter of much surprise and regret, that Mr. William Lawrence, of London, a gentleman distinguished for brilliant talents and extensive learning, in speaking, in his surgical lectures, of the different methods of operating for the cure of ununited fractures, should greatly undervalue the importance of Dr. Physick's operation, and limit exceedingly its successful results. To correct the false impressions which this statement might create, and as an act of justice due to the distinguished inventor of the operation, my friend Dr. Hays gave in his valuable periodical, the American Journal of the Medical Sciences, vol. vii, p. 267, a brief summary of numerous cases of ununited fracture successfully treated by means of the seton, collected from various sources. Dr. Physick was extremely gratified at the able manner in which Dr. Hays vindicated the merits of his operation, for the cure of artificial joint by means of the seton.

Dr. Physick's private journal, and also a book of cases, kept by his nephew, Dr. Dorsey, clearly evince that at this period Dr. Physick was occupied in attending to a most extensive and laborious practice. In Dr. Dorsey's note book are recorded the most interesting cases and operations occurring in the practice of Dr. Physick, to which he was a witness. It is exceedingly probable, that during that period there were but few operations performed by Dr. Physick, at which Dr. Dorsey was not present; for in some places he gives an account of important and capital operations performed almost daily by his uncle.

It has always been a subject of deep regret with the profession, that Dr. Physick should have evinced throughout his whole life such an extreme reluctance to the publication of the results of his valuable observations and

experience. What a fund of knowledge has in this manner been permitted to pass away, which might have been happily applied to ameliorating the miseries of humanity? Strange as it may appear, I unhesitatingly assert, that posthumous fame was not sought after by Dr. Physick. I am well convinced, however, that in the latter years of his life, he regretted very much himself that he had not published more for the benefit of his fellow beings; but at this period his disinclination and habits had become so confirmed that it was impossible for him to change them.

From the paucity of Dr. Physick's printed communications, and their considerable value, I make no apology for briefly noticing them. It has been necessary to collect them from various Journals. I consider it unnecessary to enlarge upon them, however, inasmuch as my friend, Dr. Benjamin Hornor Coates, is engaged in preparing an edition of Dr. Physick's works, with commentaries on his doctrines and practices.

In Coxe's Medical Museum, vol. i. for the years 1804–5, there are published by Dr. Physick three papers, communicating cases occurring in his practice, together with practical suggestions, and by Mr. Bishop two, giving an account of improvements and modifications upon instruments made after the directions of Dr. Physick.

In the first paper, Dr. Physick communicates the particulars of a case of varicose aneurism, occurring at the bend of the elbow, in consequence of the artery being wounded in the operation of venesection; the lancet being pushed into this vessel through the vein. The blood escaped from the artery into the cellular membrane between it and into the vein, and formed a large pulsating tumour, in which the particular thrill accompanying varicose aneurisms was distinctly felt. The sac formed out of the cellular tissue went on increasing in size, until it became so firm that the blood was forced from it into the vein through the puncture in its lower side, with sufficient force to distend it very considerably for two or three inches above and below the sac. The size of the forearm had much diminished, and the hand was constantly cold. At length the skin covering the swelling became so thinned that the patient was very apprehensive that it might suddenly rupture. In this state Dr. Wistar and Dr. Physick advised an operation.

Dr. Physick performed this in the following manner. He divided the skin and cellular membrane covering the swelling, and then dissected completely round the tumours. After this he tied the trunk of the vein above and below its enlargement; and next he tied the artery above and below the sac. He finally dissected out the whole of the parts between the ligatures, including the aneurismal sac. Upon opening the sac its inside was found every where incrusted with bony matter; but the artery was perfectly sound and natural. In three weeks the wound healed, and the patient very soon recovered the entire use of the limb.

The second publication was a description by R. B. Bishop, surgeons' instrument maker, of the gorget, as constructed according to Dr. Physick's plan. I have already noticed this modification of the gorget in a former part of this memoir.

The third publication in the Medical Museum was exceedingly valuable and interesting, being the first annunciation of a new method of treatment, suggested by Dr. Physick, for the relief of a formidable disease, and one which had previously baffled the skill of the most experienced

physicians. In this communication Dr. Physick recommends the use of blisters for the purpose of arresting the progress of mortification. He states that he was induced to resort to this practice from a knowledge of blisters having been employed advantageously in curing erysipelatous inflammation; a practice which he learned from the late Dr. J. Pfeiffer. In this paper Dr. Physick gives an account of two cases of mortification which came under his own notice, in which he applied blisters to the mortified parts with the most beneficial effects. He also publishes two letters, one addressed to him by his friend, Dr. Benjamin Rush, and the other by Dr. Church; each of whom describes a case of mortification in which he employed blisters, upon Dr. Physick's recommendation, with perfect success.

It is scarcely necessary for me to add, that since that period, blisters have been frequently employed for the purpose of arresting the progress of gangrene and mortification, with the most successful results. As a local remedy, I believe it is entitled to a decided preference over all others. To be effectual, it should be large enough to cover the sound parts adjacent to the disease.

The fourth publication consists of a description, by R. B. Bishop, of the curved bistoury, as improved by Dr. Physick, for the operation of fistula in ano, with a plate. This well known instrument, thus modified by Dr. Physick, combines the advantages of both the blunt and sharp-pointed bistoury. Since the period of its invention it has been in general use.

In the fifth communication Dr. Physick describes the history of a case of luxation of the thigh bone forward, and the method which he employed for its reduction; and the paper is accompanied by a plate. Although this case is an exceedingly interesting one, it is unnecessary to notice it more particularly.

I have already stated, that at the period when Dr. Physick commenced his professional career, the organisation of the medical department in the University of Pennsylvania was so imperfect, that the chairs of Anatomy and Surgery were combined. To remedy this acknowledged deficiency, in the year 1805, the chair of Surgery was made distinct from that of Anatomy, and Dr. Physick was elected, I believe unanimously, Professor of Surgery.

It should be borne in mind, that he had previously, in the year 1800, complied with a request, made to him by a number of gentlemen engaged in the study of medicine, to deliver lectures on surgery. These lectures were delivered in the Pennsylvania Hospital; and he exhibited such positive and satisfactory evidence of his entire competency to the task which he had assumed, that he very soon became exceedingly popular as a teacher, and added greatly to his fame.

It is more than probable that the position which he now held as a lecturer on surgery, exerted no little influence in producing the change which was made in the medical faculty.

I presume it will not be denied that, however great the advantages may have been which accrued to Dr. Physick in consequence of his being appointed Professor of Surgery in the University of Pennsylvania, the institution itself derived equal advantages from his connection with its medical faculty. It is certain that, soon after his appointment, the number of students who resorted to this city to attend the medical lec-

tures, greatly increased; and although I freely admit that there were many co-operating circumstances, his efforts in behalf of the school being seconded by colleagues who possessed talents of so refulgent a character that the light shed from them has not yet passed away, still it is worthy of record, that the zenith of Dr. Physick's fame and usefulness was the period at which the University of Pennsylvania attained the acme of its reputation.

Having shown that Dr. Physick's efforts as a private lecturer were attended with the most entire success, we can readily believe that he was quite prepared to enter upon the duties of his new appointment. Inasmuch, however, as this situation opened to him a more extensive field of action than he had previously cultivated, he felt himself called upon to make renewed exertions.

It is almost impossible to conceive of the great amount of labour which he was in the habit of performing daily, during this period of his life. He has frequently told me that it was his custom, throughout the winter months, to rise at four o'clock in the morning. This hour being too early to disturb a servant, he was obliged to arrange his own fire. He would then sit down to his desk and prepare his lecture for the day; after which he would dress himself, and then take his breakfast, and leave his house between eight and nine o'clock, to attend to an extensive and laborious practice. In addition to all this, he discharged his duties as Surgeon to the Pennsylvania Hospital, and to the Alms House Infirmary. He used often to remark, that in order to obtain entire success as a practitioner of medicine, it was necessary to work hard. He told me that in London this idea was conveyed by the emphatic expression "Doctor or Mr. —— is *working* his way into business." It will be conceded that no portion of his success ever came to him gratuitously; on the contrary, he made laborious exertions to obtain it.

Dr. Physick's manner as a public lecturer was extremely grave, dignified and impressive. His style was clear, simple and chaste. He was uniformly careful never to say too much. His choice of language was remarkably good, and he possessed the happy faculty of communicating knowledge agreeably and clearly to a degree which I have never known surpassed. Perhaps one great reason for this was, that he never undertook to instruct others upon subjects which he did not clearly comprehend himself. He attempted no display of oratory; neither did he permit his reason and imagination to run wild in the regions of theory and fancy. He found much better employment for his mind in constantly studying the realities of life, and in reflecting upon the best methods of promoting the welfare of his fellow creatures. His lectures were carefully prepared and written out. He did not at all approve of extemporaneous lecturing; as he thought that in lecturing upon scientific subjects, and more especially such as involved the lives and happiness of our fellow beings, no man had a right to place so much confidence in the strength of his memory as is implied in that practice.

Dr. Physick's course of lectures on surgery was eminently valuable, from being founded principally upon his own practical knowledge and experience, and also from his discarding all mere hypotheses; besides which his lectures derived an additional attraction and importance from the circumstance that his reputation for stern integrity and strict veracity was

so well known and established, that whenever he asserted facts to be true, they were implicitly believed.

As a letter-writer he was exceedingly exemplary and peculiar. I regret very much not having the privilege of inserting a few of his letters in this memoir. In general they were remarkably brief and pithy. He was excessively annoyed at receiving, and being obliged to read letters of an unmeaning and unnecessary length. It was the same with respect to books. I have often heard him complain of the hardship of being obliged to read through a volume of two or three hundred pages, to get at ideas which might have been embodied in ten or twenty.

The year 1809 has been rendered memorable in the annals of surgery, by the invention and execution of an operation by Dr. Physick, which, for the brilliancy of its conception and the important practical results which have ensued from it, has excited admiration and attention throughout the medical world.

In the month of January of that year, Dr. Physick performed his operation for the cure of artificial anus, which, as is well known, was completely successful. To those who are unacquainted with the nature of the loathsome malady just named, it is impossible to convey any adequate idea of the many afflicting circumstances connected with it; suffice it to say, that the unhappy sufferer is rendered disgusting, not only to himself, but to those around him. There are probably few persons who would not prefer death to existence complicated with a train of such insupportable evils. What an immense amount of obligation are we not under to him who, by the force of his genius and profound acquirements, was enabled to triumph over obstacles of such fearful magnitude, and provide a remedy for so hopeless a calamity! We are happy to say, that the debt of gratitude has not been left unpaid, and that Dr. Physick has received the homage of the profession for having achieved this invaluable discovery.

His method of performing this operation is now so well known that it is not necessary for me to communicate the details of it here. He was negligent in not making a printed publication of the method at the moment of its discovery; he, however, publicly taught it, in his surgical lectures annually, from 1809 to 1821, to classes of several hundred students.

You are aware that some years subsequently, one of the most distinguished surgeons of Europe, the late Baron Dupuytren, performed an operation upon a somewhat modified plan, but with similar views, and founded upon precisely the same principles; and that he claimed the merit of having invented the method, and appropriated to himself the consequent honours. It did not, however, by any means comport with the views entertained by the surgeons of our country, that the distinguished head of the profession should be dispossessed in so unceremonious a manner, of honours exclusively his own. Accordingly, in order to place the matter in its proper light, my friend Dr. Benjamin Hornor Coates, obtained from Dr. Physick the date of the operation, together with ample notes of the case, taken from his private journal, now in my possession, and also procured an account of the case as recorded in the manuscript case book of the Pennsylvania Hospital; and then published a full account of Dr. Physick's operation in the North American Medical and Surgical Journal for October, 1826, together with some valuable remarks upon Baron Dupuytren's method of operating, proving in the most satisfactory manner that the justly celebrated French surgeon promulgated the idea of the operation long after Dr. Physick.

Baron Dupuytren exhibited reluctance to yield his claims to this discovery; but before his death, he was, I believe, fully satisfied of the justice of Dr. Physick's claims to priority.

In the year 1835, Dr. Physick was exceedingly gratified at receiving a letter from his relative, Dr. Robert R. Dorsey, then residing in Paris, in which he informed him that M. Roux, the present distinguished successor to Baron Dupuytren as surgeon in chief to the Hotel Dieu, stated in a lecture introductory to his clinical course on surgery, in the presence of Professor Mott of New York, Dr. A. B. Tucker of this city, and a large class of medical gentlemen, that to Dr. Physick was unquestionable due the honour of having invented the operation for artificial anus, which had been claimed by his predecessor, Baron Dupuytren.

In the third volume of the "Eclectic Repertory," for October, 1812, Dr. Physick published an account of a new method which he had employed for the purpose of extracting poisonous substances from the stomach. In this communication he furnished the particulars of two very interesting cases, in which twin brothers, of the age of three months, had been thrown into a state of complete stupor, from which they could not be roused, from having had administered to each of them by their mother, one drop of laudanum, in order to allay the restlessness attendant upon whooping cough, under which they were both labouring. It appears that the vial from which the laudanum had been given had contained, several weeks previously, nearly one ounce of that medicine; but in consequence of having been left without a cork, it had evaporated so that the mother was able to obtain one drop only for one of the children, and in order to procure another drop, she put two drops of water into the vial, stirred it about, and then gave a drop of it to the other child. The poor mother was entirely ignorant of the immense additional strength which the dose had gained, in consequence of the evaporation which had taken place.

Each of these children had been thrown into convulsions. When Dr. Physick arrived at the house, he immediately directed an emetic of ipecacuanha to be given. This, however, could not be accomplished, as the children were incapable of swallowing. "The countenances of the children became livid, their breathing very laborious, with long intervals between the times of each inspiration, and the pulse in each very feeble. The pulse and respiration had almost ceased; and, indeed, the pulse could not be perceived, except a faint stroke or two, after that kind of imperfect and convulsive inspiration which is commonly observed in children just before actual death, accompanied with a convulsive action of the muscles of the mouth and neck." Under these circumstances, Dr. Physick saw that no time was to be lost, and as the children could not swallow, he determined to inject an emetic into their stomachs. For this purpose he introduced a large flexible catheter down the œsophagus, and through it he injected one drachm of ipecacuanha mixed with water, by means of a common pewter syringe. After waiting some little time for the operation of the emetic in vain, the stomach having in both instances completely lost its power of action, he injected a quantity of warm water, and then withdrew it by means of the syringe. He now repeated these operations again and again, until he had washed out the stomach thoroughly and removed all their contents.

By the time these operations were completed, however, all signs of animation in both children were entirely lost. Discouraging as these circum-

stances were, the doctor determined to persevere in his efforts to restore life; and accordingly he injected into their stomachs some spirits, mixed with water, and a little vinegar; and he also made use of external stimuli. In a few minutes the pulse and respiration returned in each child, and in the course of a short time both were regularly performed. One of these children, however, expired the next morning; the other completely recovered.

In a note to this communication Dr. Physick states, that the idea of washing out the stomach in cases where large quantities of laudanum or other poisons had been swallowed, occurred to him at least twelve years previously, and that he had constantly recommended it in his lectures. He states also that his nephew, Dr. Dorsey, had performed the operation of washing out the stomach in such a case in the year 1809. At the time Dr. Physick made this communication, he was under the full impression that he was the earliest inventor of this operation. In the same volume, however, of the Eclectic Repertory, p. 380, there is published a letter from him, addressed to the editors, in which he says that he considers it an act of justice to inform his medical brethren that the merit of prior invention belongs to Dr. Alexander Munro, Jr. of Edinburgh, who published it in his inaugural thesis in A. D. 1797. Dr. Physick was entirely ignorant of this fact until he saw it mentioned in Dr. Munro's work on morbid anatomy, which he had but very lately received.

Conceding to Dr. Munro all the honour arising from the discovery of this valuable method of treatment, it must be admitted that Dr. Physick is entitled to the grateful thanks of the community for having introduced it into practice. It is scarcely necessary for me to say that this operation is now one almost daily performed and that by it very many persons have been rescued from an untimely grave.

In the winter of 1813–14, Dr. Physick suffered from a severe attack of typhus fever. On this occasion his illness was so extreme, that his medical friends despaired of his life for some time. He gradually convalesced, but his constitution did not entirely recover from the shock which it then received. From this period he never enjoyed what might be called uninterrupted health. His powers of digestion became exceedingly impaired, whence ensued a train of most unpleasant dyspeptic symptoms. He became subject also to frequent attacks of catarrh, and his susceptibility to this condition increased to such an extent that he was obliged to observe the most rigid precautions in order to guard against it. His method of treatment when labouring under a severe cold, required confinement to a warm room; and in fact he accustomed himself to a degree of heat in his apartments which to many others was almost insupportable. In addition to this he always employed the strictest antiphlogistic treatment, as regarded his diet and remedial agents. I think that he injured himself, and in a measure produced the very enfeebled and prostrated condition of his system which attended him during the latter years of his life, by the excessively reducing system of treatment to which he had recourse.

The small amount of food of which he would sometimes permit himself to partake, is almost inconceivable; and this for many days together. I frequently expressed to him my regrets respecting the meagre diet he was using; and upon one occasion I dissented roundly from the propriety of such a course of dieting. He replied that he regretted it very much himself, and that he wished he could indulge in more generous living, but that

he had accustomed his stomach for so long a time to abstinence from rich food, that it was impossible now to make any change.

About the period to which we are alluding he began to experience certain unpleasant symptoms, indicative of a diseased condition of the heart, and which eventually terminated in organic affection of that organ, and doubtless laid the foundation for the hydropic complaint of which he died.

Among the complicated forms of disease to which he was subjected, must also be enumerated nephritic disorder, with calculous concretions in the kidneys. It is impossible for language to describe the pain and agony which he frequently endured from the passing of the small calculi through the ureters into his bladder. Upon one occasion, about ten years previous to his death, I knew him to be for near two hours without any pulse perceptible at the wrist, in consequence of intense suffering, caused by the lodgment of a small calculus in the ureter. It remained fixed in this situation for some days, and grew to the size of a small pea; it finally passed into the bladder, and was discharged a few minutes subsequently through the urethra.

The practical knowledge and experience which Dr. Physick derived from the careful and minute attention which he bestowed not only upon every department of his profession, but also, I may say, upon each separate and individual case of disease which came under his notice, enabled him to suggest numerous modifications and improvements which have exerted the happiest influence in elevating the condition of our science. It would be impossible, in a communication of this nature, which has already exceeded the limits originally proposed, to give even a brief outline of the many valuable inventions for which we are indebted to him. In order to do this, it appears to me, that it would be necessary to review almost every professional act of his life; because there was no form of disease of which he undertook the management, in which he did not exercise a tact and method of treatment peculiarly his own. I do not mean to say that in every case he prescribed a new remedy, and one original with himself.—My meaning is that he invariably modified either the dose, or the preparation, or the time of its administration, or the method of its application, according to his own proper and peculiar views.

It may not be deemed uninteresting to mention the particulars of a case in which he was instrumental in preserving the life of a valuable and distinguished lady, by the following simple treatment. This lady was brought on to Philadelphia labouring under an attack of dyspepsia of the most aggravated character. The irritability of her stomach was so great, that it had rejected every variety and form of nourishment which could be thought of, and her system consequently was so much weakened and prostrated, that she appeared to be absolutely dying of inanition. When Dr. Physick saw her, after proposing a variety of articles, he asked her whether she had ever, since her attack, tried to take milk. She replied that she had often taken it, but her stomach very soon rejected it. He then asked her whether she did not think that her stomach would retain the half of one tumblerful of milk. She said, no. He repeated his questions. Would it retain one wineglassful? No! Would it retain a tablespoonful? No! He then told her that he was under the impression that she could retain in her stomach one teaspoonful of milk; and accordingly he prescribed the article for her, to be taken in that quantity, at repeated intervals. The lady attended to his prescription, and was ultimately restored to perfect health.

Among other improvements suggested by Dr. Physick, I should mention, that in the Eclectic Repertory, vol. vi, for the year 1816, he published an account of a method which he had proposed for forming ligatures out of animal fibre. He had repeatedly noticed, that after the performance of operations, the wound was prevented from healing, and the patient was subjected to the greatest inconvenience and distress, in consequence of the ordinary ligatures, formed out of silk or flax, remaining fixed in the wound sometimes for many weeks or even months. Dr. Physick considered it an object of extreme importance to obviate these inconveniences; and accordingly he proposed the use of animal ligatures, by means of which an artery could be secured for a sufficient length of time to cause the obliteration of the vessel, and the ligature, being decomposed and dissolved, would escape in the course of a few days.

His views upon this subject will be fully explained by the following quotation. "Several years ago, recollecting how completely leather straps spread with adhesive plaster, and applied over wounds for the purpose of keeping their sides in contact, were dissolved by the fluids discharged from the wound, it appeared to me that ligatures might be made of leather, or of some other animal substance, with which the sides of a bloodvessel could be compressed for a sufficient time to prevent hemorrhage: that such ligatures would be dissolved after a few days, and would be evacuated with the discharge from the cavity of the wound."

From this period he continued to employ animal ligatures almost exclusively up to the time when he left off operating. I regret that notwithstanding the advantages which these ligatures possess, they are but seldom used by the surgeons of the present day. I can attribute this neglect of them to nothing but the slight trouble attendant upon their preparation.

Some time subsequently to Dr. Physick's publication upon this subject, it was shown that the idea of preparing ligatures from animal fibre had been suggested a long time previously by one of the older surgeons. It is scarcely necessary for me to say, that he was entirely ignorant of this fact, and that at the time he was under the full impression that the suggestion had originated with himself.

Whilst upon this subject, it may not be amiss to give an account of a very ingenious contrivance, which Dr. Physick employed for the purpose of facilitating the discharge of ligatures which remained fixed in the cavity of wounds, either in consequence of being penetrated by new granulations, or from other causes. In such cases he twisted the ligature very firmly, and then secured it to the adjacent skin, by means of a small strip of adhesive plaster. The effect of this twisting is to tighten the noose at the extremity of the ligature, so as to compress completely the parts contained within it; and in addition to this, the natural tendency of the ligature to untwist itself keeps up a constant action and pressure upon the parts, and thereby causes ulceration. We have known several instances in which ligatures which had been retained for a long period in wounds, have been extricated by resorting to this simple process. I may state that Dr. Physick had strong objections to the use of silk ligatures, and in cases where he did not employ animal ones, he invariably preferred those made of flaxen thread or bobbin. He was of the opinion that silk ligatures were more apt to slip.

It is my impression that the period which we are now commemorating may be considered as that at which his professional engagements had ac-

quired their greatest extent. His preeminence, both as a physician and a surgeon, was at that time so generally conceded in this city, as to lead to the greatest demand for his professional services. In addition to this his surpassing fame and reputation were so completely established and so widely disseminated, as to induce strangers from all parts of our country to resort to Philadelphia, in order to be benefitted by his skill and experience.

It follows also as a natural consequence of his exalted position, that many persons who could not make it convenient to leave their homes, would apply to him for his advice and opinions in writing; so that in addition to his other labours, much of his time was occupied in keeping up an extensive correspondence.

I have already shown that his health was considerably impaired; and it is probable that about this period he must have been deeply sensible of his increasing infirmities, inasmuch as he thought proper, in 1816, to resign his situation as Surgeon to the Pennsylvania Hospital. He had received his appointment in 1794; consequently he served the institution twenty-two years. Some time previous to this he had resigned his situations in the Philadelphia Dispensary, and in the Alms House Infirmary.

In the year 1819, Dr. Physick resigned his chair of Surgery in the University of Pennsylvania, and was transferred to that of Anatomy, which had become vacant the preceding session by the death of his nephew, Dr. John Syng Dorsey.

The premature death of the lamented Dorsey plunged Dr. Physick into the deepest affliction, and had the effect of creating a melancholy gloom, which overshadowed the remainder of his existence. Dorsey, of all others, was fitted to cheer and solace the declining years of his uncle. He had been regularly educated under the immediate inspection and superintendence of Dr. Physick, had imbibed from him his early lessons of wisdom and knowledge. and at a more matured period of his life, fully adopted the principles and doctrines of his preceptor. Advantages like these, aided by talents of a brilliant and comprehensive order, enabled Dorsey at an unusually early period of his life, to assume the most elevated and distinguished rank in his profession. Relentless death, however, seized upon his prey, whilst in the midst of his honours and his usefulness.

It was always a source of deep regret with Dr. Physick's immediate family and friends, that his comforts in the evening of his days, and whilst labouring under physical infirmities, should be so greatly interrupted by translating him from the chair of Surgery to that of Anatomy. We had positive assurances from himself that the change was contrary to his own wishes and inclination: how far the interests of the institution to which he belonged may have been promoted by it, I do not mean to inquire. My own impression is, however, and I believe I am not singular in the opinion, that if he had continued in the chair of Surgery up to the period when he retired from the University, it would have numbered in its catalogue of students many more than it has ever shown.

In the Philadelphia Journal of the Medical and Physical Sciences, edited by Professor Chapman, vol. i, for the year 1820, Dr. Physick gave an account of the method which he employed for the removal of scirrhous tonsils, and hemorrhoidal tumours. This consisted in strangulating the tumours completely by means of a soft wire ligature passed through a double cannula, and removing the wire at the expiration of twenty-four hours; instead of allowing the instrument to remain applied,

as was formerly the custom, until the parts separated and were thrown off, a process requiring a week or ten days. Experience has shown this to be a valuable improvement on the old method. We can readily imagine that the long-continued irritation kept up by the instrument would be productive of a degree of pain and suffering from which it is desirable to free the patient as soon as possible.

A few years subsequently, Dr. Physick became convinced that the best method of removing scirrhous tonsils was by excision. He contrived a very ingenious instrument for this purpose, and also for excising the uvula; a full description of which, accompanied with a plate, was published by Dr. Hays, in the American Journal of the Medical Sciences, vol. i; together with the very interesting case of a young lady, afflicted with a most obstinate cough, occasioned by an elongation of the uvula, who was entirely cured by Dr. Physick, by means of the excision of a portion of that organ. In vol. ii, of the same Journal, Dr. Hays, its editor, published the description and plate of a forceps, invented by Dr. Physick, and employed in certain cases to facilitate the extirpation of the tonsils, by means of his instrument. The forceps is so constructed, that "the tonsil may be seized, and drawn through the aperture to any distance that may be deemed proper; when its extirpation can be immediately effected."

It is proper that I should state, that in cases of hemorrhoidal tumour, where the complaint was of long standing, when the lining membrane of the rectum was much diseased, and where the tumours were seated internally, Dr. Physick employed the ligature for their removal, as long as he continued to operate. Under the circumstances just mentioned, he considered this method of operating far safer than using the knife, and greatly to be preferred.

The following extract, taken from his communication on the use of the double cannula and a wire, conveys a correct idea of his views upon this subject. "I have for many years been in the habit of performing the same kind of operation for the extirpation of hemorrhoidal tumours. The cannula used in this case should not be longer than about two inches. When hemorrhoidal tumours are external and troublesome to the patient, almost all surgeons, I believe, cut them off; but when their attachments are within the anus, and the tumour only protrudes in the act of evacuating the fæces, then their excision would be attended with great risk of hemorrhage. This some have denied, but having twice witnessed the fact to a very alarming extent, I wish on all such occasions to guard against it. The extirpation of such tumours can be performed safely by means of a ligature of either vegetable or animal substance; but the most convenient and effectual I have ever tried, is a wire drawn at once tight round its base, by means of the double cannula. This gives momentary pain, but it is not in all cases so severe as might be supposed. I am not able to account for this circumstance; but some patients make no complaint whatever, even though two or three tumours are operated on at the same time, while others exclaim violently from its intensity. At the end of twenty-four hours, and probably sooner, the wire may be removed in the manner above explained. The tumour will be found shrivelled and black, and in a few days will be separated and thrown off, under the application of a soft poultice of bread and milk."

Much has been said respecting the intensity of the pain accompanying

the application of a ligature to hemorrhoidal tumours. I have, however, repeatedly performed this operation, and not unfrequently the patients have expressed surprise at the little suffering which they experienced. Dr. Physick often related to me the case of a gentleman on whom he performed two operations for the removal of hemorrhoidal tumours. In the one he used the knife, and in the other the ligature; and the patient declared that the knife caused him much greater pain than the application of the ligature. It is proper to mention, however, that in order to lessen the amount of pain, Dr. Physick considered it extremely important to include within the ligature nothing but the hemorrhoidal tumour itself.

It is undeniable that, in certain cases, the excision of hemorrhoidal tumours is attended with the risk of fatal hemorrhage; and it is well known that cases have been reported by the highest authority in surgery, in which this operation has been followed by loss of life. I should suppose that Baron Dupuytren's cautions respecting this operation, in conjunction with his directions for the suppression of the hemorrhage attendant upon it, would be quite sufficient to deter a majority of surgeons from excising internal hemorrhoids.

The last paper written by Dr. Physick, which I shall briefly notice, is one which he published in vol. iii, of the Philadelphia Journal of the Medical and Physical Sciences, in which he communicated the particulars of a case of carbuncle, with some remarks on the use of the common caustic vegetable alkali in the treatment of this disease. For the better comprehension of his views respecting the use of the caustic, he divides the progress of carbuncle into three stages. The first or forming stage is that in which the peculiar inflammation exists in the cellular texture under the skin. The second stage is that in which the inflammation has terminated in the mortification of the parts. In the third stage an ulcer remains, attended, however, with no peculiarities.

He says, "In the first stage, all irritating treatment appears to be injurious, by increasing the peculiar inflammation then existing, and thereby extending it."

"In the second stage, the inflammation having ended in the death of the cellular texture in which it was situated, a process begins for making an opening through the skin, to allow the dead parts and acrid fluids to pass out. The commencement of this process is pointed out by the appearance of pimples and small orifices, as above described; and it is at this period that the application of caustic vegetable alkali upon the skin so perforated, and on that covering the middle of the tumour, in quantity sufficient to destroy it completely, proves highly beneficial. In all the cases in which I have used the caustic in this manner, the suffering of the patient ceased, as in Mr. Wharton's case, as soon as the pain from the caustic subsided. It operates by destroying in a few minutes that portion of the skin covering the mortified parts, which, if left to be removed by ulceration, would require several days for its completion, occasioning the chief part of the pain and danger attendant on and consequent to the disease."

In the year 1821, Dr. Physick was appointed Consulting Surgeon to the Institution for the Blind.

In 1822, the Phrenological Society of Philadelphia elected him its President.

In 1824, he was chosen President of the Philadelphia Medical Society. He held this situation until the time of his death.

In 1825, January 6, he was appointed a Member of the Royal Academy of Medicine of France; so far as I know, the first American who ever received that honour.

In 1831, in consequence of his declining health, he felt it incumbent on him to retire from the active duties of the University; and accordingly he resigned his situation as Professor of Anatomy. In acknowledgment of the extraordinary services which he had rendered, in elevating the character of the school, and in promoting the advancement of medical science, the institution, upon accepting his resignation, conferred upon him the highest honour in its power, by electing him unanimously "Emeritus Professor of Surgery and Anatomy."

Not the least among the improvements effected by Dr. Physick in the methods of treating diseases, may be considered his management of affections of the joints; and more especially that condition of the hip joint, known by the name of "morbus coxarius, or hip disease."

I may mention generally, that his practice consisted in the application of a carved splint, to keep the limb strictly at rest, and prevent the least possible motion of the joint; and a course of active and long-continued purging.

In the American Journal of the Medical Sciences, No. xiv, February, 1831, I published a detailed account of Dr. Physick's method of treating morbus coxarius, accompanied with a plate, exhibiting the application of the carved splint. The superiority of this method of treatment is now so completely established in this conntry as to lead to its adoption by the profession generally.

In October, 1831, Dr. Physick performed the operation of lithotomy on Chief Justice Marshall. This case was attended with singular interest, in consequence of the exalted position of the patient, his advanced age, and the circumstance of there being upward of one thousand calculi taken from his bladder. It is well known that for several years previous to this period, Dr. Physick had declined performing extensive surgical operations. He felt somewhat reluctant to operate upon Chief Justice Marshall, and offered to place the case in my hands. Taking all the circumstances into consideration, and knowing well that this would be the last time that he would ever perform a similar operation, I felt desirous that he should finish with so distinguished an individual; and accordingly urged him to do it himself. Upon the day appointed, the Doctor performed the operation with his usual skill and dexterity. I do not think I ever saw him display greater neatness than on that occasion. The result of the operation was complete success.

It will be readily admitted that, in consequence of Judge Marshall's very advanced age, the hazard attending the operation, however skilfully performed, was considerably increased. I consider it but an act of justice, due to the memory of that great and good man, to state, that in my opinion, his recovery was in a great degree owing to his extraordinary self-possession, and to the calm and philosophical views which he took of his case, and the various circumstances attending it.

It fell to my lot to make the necessary preparations. In the discharge of this duty, I visited him on the morning of the day fixed on for the operation, two hours previously to that at which it was to be performed.

Upon entering his room I found him eating his breakfast. He received me with a pleasant smile upon his countenance, and said, "Well, doctor, you find me taking breakfast, and I assure you I have had a good one. I thought it very probable that this might be my last chance, and therefore I was determined to enjoy it and eat heartily." I expressed the great pleasure which I felt at seeing him so cheerful, and said that I hoped all would soon be happily over. He replied to this, that he did not feel the least anxiety or uneasiness respecting the operation or its result. He said that he had not the slightest desire to live, labouring under the sufferings to which he was then subjected; that he was perfectly ready to take all the chances of an operation, and he knew there were many against him; and that if he could be relieved by it he was willing to live out his appointed time, but if not, would rather die than hold existence accompanied with the pain and misery which he then endured.

After he had finished his breakfast, I administered to him some medicine: he then inquired at what hour the operation would be performed. I mentioned the hour of eleven. He said, "Very well; do you wish me now for any other purpose, or may I lay down and go to sleep?" I was a good deal surprised at this question, but told him that if he could sleep it would be very desirable. He immediately placed himself upon the bed and fell into a profound sleep, and continued so until I was obliged to rouse him for the operation.

He exhibited the same fortitude, scarcely uttering a murmur throughout the whole procedure, which, from the peculiar nature of his complaint, was necessarily tedious.

Chief Justice Marshall survived this operation some years, and finally died of a disease of an entirely different character. Previously to his death he laboured under very unpleasant symptoms, which are frequently met with in advanced life; and in consequence of these, an erroneous rumour was widely disseminated that he had a recurrence of his old complaint, stone in the bladder.*

I should state, that at an early period after Judge Marshall's case, the operation of lithotripsy was introduced into this country. Dr. Physick became convinced of the extraordinary advantages which it possessed over lithotomy, and yielded it the full support of his sanction and approbation.

Among other contributions made by Dr. Physick to the department of surgery, I should mention that we are indebted to him for making us acquainted with the existence of preternatural pouches, or sacs, situated at the lower extremity of the rectum, just above the verge of the anus. This form of disease, which is one of not unfrequent occurrence, is in many instances productive of the most severe and distressing symptoms; so much so, that we have known patients labouring under it declare that their lives were scarcely supportable. The complaint is rendered more perplexing also from the almost uniform absence of all visible or external signs by which it may be designated. It is only by a peculiar mode of examination that its existence can be detected.

Those who wish to acquaint themselves more particularly with this disease, I refer to the "American Cyclopedia of Practical Medicine and Surgery," edited by Dr. Hays; in which is published, under the head of Anus, a most able article, written by my friend Dr. Reynell Coates, giving a mi-

* See the No. for August, 1836, p. 534, for the correction of this rumour.

nute and correct account of the nature and treatment of these preternatural pouches, as collected from Dr. Physick himself.

Before concluding the account of Dr. Physick's labours, I may state, that in a conversation with his relative, Dr. R. R. Dorsey, a short time since, he recalled to my remembrance the case of a gentleman aged 70, in which Dr. Physick had been eminently successful in alleviating, by means of a novel contrivance, the sufferings of a patient labouring under an enlargement of the prostate gland. As Dr. Dorsey attended this patient in conjunction with Dr. Physick, and had a particular knowledge of his method of procedure, I requested him to furnish me with an account of the case. He kindly acceded to my wishes, and sent me the following:

"The end of a small flexible catheter was introduced nearly to the bottom of a very thin sac or pouch, three inches long, and an inch and a half in diameter at the mouth. The edges of the sac, which was prepared from the intestine of a sheep, were secured to the catheter by a fine silk thread, wrapped around it with great care; and the material being as fine as the thinnest blotting paper, adapted itself, when oiled, so closely to the instrument, that the bulk of the whole was less than that of a large sized bougie.

"After its introduction into the bladder, the membrane was injected with tepid water, and the mouth of the catheter being stopped with a peg, it was gently, but with some firmness, retracted. The consequent pressure at the seat of disease, gentle and uniform, and from the nature of the material used, as little irritating as possible, had the happiest effect in repressing the enlarged lobe of the gland; and afforded for many months, great relief by facilitating the discharge of the urine. Although the patient took a severe cold immediately after the operation, he did not suffer more than he had previously; and on recovering from its temporary influence, he experienced a relief long unknown. The introduction of the instrument was again practised after an interval of some months, with great advantage.

"Much nicety is requisite in securing the edges around the catheter, so that there may be no roughness to cause irritation during its retraction. It was also deemed proper to wind the end of the thread loosely round the catheter and secure it to the stopper. The material employed was prepared and may be procured in France."

Dr. Physick informed me that he had been equally successful in relieving another case by means of the same contrivance.

In November, 1836, he was elected an honorary fellow of the Royal Medical and Chirurgical Society of London. The conferring of this honour was a full acknowledgment of his exalted merits, and justly acquired reputation, and he did not affect to conceal the high gratification which he derived from it.

I have mentioned in the former part of this memoir, that the first case recorded in his private journal is one in which he performed the extraction of the crystalline lens. By a singular coincidence, it happened that the last operation ever performed by Dr. Physick was for cataract, and took place but a few months previously to his death. He, however, never saw his patient after completing the process; the attack which terminated his existence occurring on the afternoon of the same day.

I ought to mention, by way of apology for his engaging in any surgical operation whilst labouring under such feeble health, that the circumstances attending this case were exceedingly peculiar. The applicant was a foreigner. Dr. Physick had operated upon his eye a year previously, and the gentleman had remained in this city during a whole year for the purpose of having it repeated by him. He consequently felt it incumbent upon him

not to disappoint his patient; and he was not the man to shrink from the performance of what he believed to be his duty, notwithstanding, as he informed me, he was well aware that death was impatiently waiting for his victim.

This operation was performed on the 13th of August, 1837. I was present and watched him with the most intense anxiety. He was quite collected and firm, and his hand was steady, though he was labouring under great mental and physical suffering. Whilst witnessing this effort in the cause of afflicted humanity, I felt a melancholy conviction that it would be the final act of his professional life.

From this period his complaint went on increasing in intensity and violence. The symptoms of hydrothorax became developed to a most painful extent, and he suffered extreme agony from oppression at his chest and difficulty of breathing; so much so, that sometimes he became unable to lie down in his bed for whole nights together, but was obliged to stand upon the floor, supported by assistants. In consequence of his increasing illness, his old and well tried friend and associate, Professor Chapman, was requested to visit him in consultation with myself. His malady, however, had become uncontrollable, and it resisted the most strenuous efforts that professional skill and affectionate attention could exert.

Some time previously to his death, anasarca took place; and in consequence of his remaining so much in the erect position, his lower extremities became enormously swollen and distended with serum. The integuments at length gave way, and openings formed, which finally ulcerated and became gangrenous.

The Father of American Surgery expired without a struggle, on the morning of the 15th of December, 1837, at twenty minutes past 8 o'clock.

> "He gave his honours to the world again,
> His blessed part to heaven, and slept in peace."

To the preceding account of the professional labours of Doctor Physick, I have but little to add respecting his private life and character. It is in fact rendered less necessary for me to dwell upon this point in his history, inasmuch as in the several obituary notices of him which have appeared from different sources, ample justice has been accorded to him both as a man and a citizen. It is with feelings of the most sincere gratification that I proceed to mention the following eulogies which were pronounced subsequently to the demise of Dr. Physick; all of them expressive of the deep sense which was entertained of his profound acquirements and personal qualifications.

"A comprehensive minute, commemorative of Philip Syng Physick, M. D., Emeritus Professor of Anatomy and Surgery in the University of Pennsylvania," was prepared, under the instructions of the Board of Trustees of the University, by William Meredith, Esq. This is replete with sentiments which fully comply with the resolution of the Board, "That a committee be appointed to prepare and present, at the next meeting of this Board, a comprehensive minute; to state the long connection of the deceased with this University, and to express the respect entertained for his able and faithful services as a teacher, for his eminence as a practitioner of medicine, and for the virtues which adorned his private character."

When the intelligence of Dr. Physick's death was received at Louisville,

"resolutions were adopted by the faculty and class of the Louisville Medical Institute, to commemorate, by a discourse prepared for the purpose, the invaluable services and character of the deceased." The duty of preparing this discourse devolved upon Professor Charles Caldwell, one of the early friends and associates of Dr. Physick. He discharged the obligations imposed upon him with his usual skill and ability; and delivered a discourse highly gratifying to the friends and connections of Dr. Physick.

At the request of the American Philosophical Society, a Necrological Notice of Dr. Physick was prepared, and presented at a meeting held in May, 1838, by Professor Wm. E. Horner. From Professor Horner's long association with Dr. Physick in the chair of Anatomy, it will be conceded that he possessed peculiar advantages for the successful accomplishment of his task. It is well known, too, that he entertained an ardent affection for Dr. Physick; and he has accordingly borne ample testimony to his talents and acquirements.

We are also indebted to Professor Granville S. Pattison, of Jefferson Medical College, for a highly laudatory notice of Dr. Physick, contained in an introductory lecture delivered before his class, on the commencement of the session of 1838–9.

It must be admitted that, by the community at large, Dr. Physick's private character was but imperfectly understood. This was owing to the habits of perfect seclusion which he contracted, and to the slight intercourse, other than professional, which he permitted himself to enjoy with his fellow citizens. It must not be supposed, however, that this isolation arose from moroseness of character or want of inclination to mingle with society. A satisfactory explanation may be afforded by the entire self-abandonment with which he devoted himself to his professional engagements. This formed one of the most striking and remarkable points in Dr. Physick's character. History probably cannot show an example of a more pure and absolute devotion to professional pursuits than he exhibited.

For the reasons just mentioned, he was supposed by some to be stern and unfeeling, and wanting in the kinder sympathies of our nature. There could not be a greater misapprehension. His feelings were tender and susceptible in the extreme; and could those persons who entertained an opposite opinion have been admitted to closer and more intimate relations with him, they would have acknowledged the great injustice they had done him in such a surmise. Many instances might be cited, were it expedient to occupy the necessary time, to illustrate Dr. Physick's extreme tenderness of feeling. At an early stage of his professional career, he performed a few experiments upon living animals, with the view of determining some physiological points. This formed a subject of regret to him as long as he lived; and he could not divest his mind of the idea that he had been guilty of a useless as well as wicked act of cruelty.

Previously to his performing important surgical operations, his feelings were so harrowed up, and he experienced so much anxiety, that it was the custom of his family to endeavour to prevail upon him to execute such operations as speedily as possible, in order to relieve his mind.

To those who only saw Dr. Physick as the bold and unflinching operator in surgery, his character might have appeared cold and unfeeling, and they might have thought him,

> —— "Unlike to other men,
> A snow-crown'd peak of science, towering high;"

but to the few who knew him in his private circle the veil was withdrawn. It was in the gentle charities of domestic life, as the tender and affectionate parent, or the sympathising friend, that his true character became revealed, and his heart was felt to be keenly alive to the kindest and softest emotions of which human nature is susceptible. He never appeared so happy as when surrounded by his children and his family; and indeed I feel assured that this formed one of the greatest consolations to him in the midst of his protracted sufferings.

In his intercourse with his professional brethren Dr. Physick's conduct was regulated by the strictest principles of honour and integrity. Whenever he was called in consultation with other physicians, without inquiring how exalted or humble their positions might be, he was scrupulously careful to avoid saying or doing any thing which could wound their feelings, or prejudice them in the least in the estimation of their patients. He invariably stated his own opinions in a frank and manly manner, and was ever willing to pay due deference to the opinions of others. Upon all occasions he was happy and ready to confer upon his fellow practitioners the benefit of his advice and experience, whether the information desired had special relation to themselves, or to those under their charge. He was far removed above the meanness of interfering with the patients of others; and whenever he had it in his power to render a service to a younger member of the profession, by a word of encouragement or commendation, it was cheerfully bestowed.

It was impossible that a man possessed of a mind of so reflective and contemplative a character as his, should not turn with anxious solicitude to the doctrines of religion, and the contemplation of a future state. Religion constituted, in fact, the most engrossing subject of attention during the latter years of his life. How far he derived comfort and consolation from his religious studies, it is not for me to say. I am very certain, however, that a more pure and ardent seeker after divine truth I never knew. As an observer of the principles of strict integrity and morality, I believe it will be conceded that he was exemplary to a remarkable degree. He, however, arrogated nothing to himself from this source. He expressed to me but a short period previous to his death, that he possessed no merits of his own o give him a claim to salvation. His humility and self abasement upon the subject of religion were extreme; and he was always willing and ready to apply to any source, however humble it might be, provided he thought he could be enlightened and instructed by it.

His course of reading upon theology was very extensive; and unfortunately for him he read many works of a conflicting and contradictory nature. The effect of this upon one who had, during all his life, been in search of indisputable evidences, was to create at times gloomy and desponding views. Yet for very many years of his life he was in the uniform habit of perusing, every morning, a portion of the New Testament; and when, in consequence of his illness and increasing infirmities, he was incapable of so doing, his children were constantly employed in reading this and other works of devotion to him. During his last illness he derived great pleasure and satisfaction from the visits of his friend and pastor, Dr. Delaney; whose kind attentions towards him were unremitting. I feel assured that the hopes and promises of the Christian religion were the greatest sources of consolation to him in the closing hours of his life, and smoothed his passage to the tomb.

REVIEWS.

ART. XII. *Lectures on the Morbid Anatomy of the Serous and Mucous Membranes.* In two volumes. Vol. i. By THOMAS HODGKIN, M. D. London, 1836.

THE situation of Dr. Hodgkin as Demonstrator of Morbid Anatomy and Curator of the Museum at Guy's Hospital, has rendered him eminently qualified to lecture or to write upon the subject of Morbid Anatomy.

The inspection of several hundred dead bodies, as he tells us, naturally brought under his notice a great variety of morbid appearances in most of the organs of the body; and in 1827 he began to lecture, commencing with the morbid anatomy of the serous membranes, and in the following year proceeding to parasitical animals; malignant diseases, and the mucous membranes.

Our author bases the arrangement of his course upon general anatomy; as he considers that it is only by collecting into one view the modifications produced by disease in any one tissue, that we can obtain accurate knowledge of the relations of these morbid alterations to each other, and to the healthy state. He begins with the serous and mucous membranes, because they are so generally diffused over the body, and because they are so frequently affected with disease. In discussing the abnormal alterations or conditions of these membranes, he adopts the following classification.

Deviations from the normal state consisting in:

1. Deficiency.
   a. The result of imperfect development.
   b. Loss sustained.
2. In excess.
3. In form.
4. In appearances which may be regarded as the result of ordinary inflammation.
5. In appearances which are the result of scrofula.
6. In appearances which are the result of diseases termed malignant or resembling them in structure.
7. In hydatids in the particular organ.
8. In the effect of accidental injury.

Dr. H. proposes to retain the word "inflammation," in preference to "hyperæmia," notwithstanding its rejection by Andral, who remarks that it is like a piece of money that has lost its stamp by wear, and has become unfit for further use. The old coin, Dr. H. remarks, may long continue much more convenient than the new, notwithstanding its indistinctness, especially if the new coin bear a different name and value. The word hyperæmia, though sufficiently expressive of the presence of an undue quantity of blood, is necessarily applicable to many cases distinct

from inflammation, and at the same time is inapplicable to some states that belong to the various stages and modes of inflammation. In this we heartily concur with Dr. H. The abandonment of an old, well known term, and the introduction of a new one, we consider always objectionable and not to be admitted, unless for very strong reasons: for as there is no general and supreme authority to fix such matters, the new term will never come into universal use; and will only create confusion.

Medical literature is in much the same situation with one of our cities or large towns; as long as the old name of a street is preserved, every one knows where he is; but let it once receive a new name, and every resident in it has some good objection to the one adopted, or some preference to another, so that every successive year it receives a new designanation.

Dr. H. makes a distinct division for the effects of scrofula, which though closely allied to those of inflammation, have many distinguishing peculiarities. In the sixth section, are included cancer, fungoid disease, and melanosis, which present the remarkable character of depending on an adventitious structure; which derives its growth and nourishment from vascular connection with the parts in which it is situated; and is consequently very different from the mere degeneration of natural structures. With regard to hydatids, he considers them as parasitical animals; as they have no vascular connection with the parts in which they are found, and are rarely if ever found even mechanically attached to them; and they have the wonderful power of reproducing their kind often to a very great extent.

In his second lecture, Dr. Hodgkin proceeds to the general consideration of the morbid anatomy of the serous membranes. These membranes are the earliest developed in the embryo. According to some physiologists, the alimentary canal and the urinary bladder owe their origin to serous membrane. They are also more frequent in their formation, nature seeming to delight in the production of such membranes as the arachnoid, the pleura, the pericardium, the peritoneum, and the tunica vaginalis. The eye, the pulps by which the teeth are formed, and the synovial capsules consist in part of serous membrane slightly modified. The large extent of surface presented by these membranes, afford the best opportunities for observing the varieties in the modes of inflammation.

The ultimate structure of the serous membrane is believed to consist in extremely minute fibrillæ combined so as to form lamellæ. Dr. H. affirms that the idea that these fibrillæ are composed of globules arranged like a string of beads, is founded entirely in an optical deception. He has spent hours in the examination of this subject in company with Mr. Lister, the inventor of a very powerful microscope; and is perfectly convinced of the fallacy of the globular theory. The perfectly formed membranes, he thinks, without exception, consist of fibrillæ of tolerably even size, bearing no resemblance to beads. The imperfectly formed membranes answer the description given by Meckel. These membranes are supplied with blood vessels and absorbents which are extremely minute in the healthy state, but become preternaturally visible and distended when inflammation causes an increased effusion in the former, or when the secretion of the lymphatics is too abundant. The existence of nerves has been denied by some. They become highly sensitive in disease, yet active and fatal inflammation sometimes goes on in them with little or no

accompanying pain. They possess a considerable degree of extensibility and contractility, as is evinced in pregnancy and parturition, and in the daily functions of the bladder and rectum. The microscopic observations of Mr. Lister and our author have convinced them that there is a greater similarity between the fibres of the arterial and serous tissues, than there is between either of them and the muscular.

Dr. H. considers that the serous and mucous membranes are transmutable into each other. The fluid secreted by the arachnoid is the most aqueous of the serous secretions. Next are the waters in the membranes of the ovum. The secretions from the ovum appear to be more charged with animal matter. We find in the cellular membrane of particular parts, close cavities which produce and contain a mucous secretion, and conduct us to the synovial bursæ and capsules, in which mucus obviously exists. Hence the transition is easy to the mucous membranes of the eye, the secretion of which is more allied to serous secretion, than that of most portions of this tissue. In accidental productions of a natural or analogous tissue so frequent in serous membranes, we find in some of the cysts a perfectly clear, limpid, aqueous fluid; in others a straw coloured serum; in others a fluid bearing the closest resemblance to synovia; and in a fourth class, a clear and perfect mucus. The serous membranes, moreover, undergo certain changes, the result of which is to convert them into mucous membrane. We do not find, however, in the physiological conditions of the organs themselves, such clear evidence of the convertibility of the one into the other, as has been offered with regard to the gradations that exist between them. He has repeatedly found the secretions of the pericardium glairy and bloody ropy from the quantity of mucus it contained. He has found the surface of the pleura lubricated with a viscid mucus which made the lungs feel as if smeared with saliva; and in inflammation of the pericardium, this membrane covered with muco-purulent effusion. In ovarian dropsies, which depend upon the development of large adventitious cysts, the first fluid evacuated is frequently thin and serous; that which is next drawn, is thick and loaded with mucus; and a fourth or fifth puncture evacuates puriform matter.

The morbid appearances common to the serous membranes, are in the first place suppression of secretion; the membranes becoming nearly or entirely dry. Gas is sometimes secreted in the cavity of these membranes. This is a rare phenomenon, and not to be confounded with cadaveric formations of gas. It is said to have been found between the layers of the arachnoid, sometimes in the pericardium, and more frequently in the peritoneum. These membranes may, through some alteration in their functions secrete air; but it is more commonly produced by chemical action taking place immediately after death. In this case it is usually attended with a peculiar smell, and may, on examination, be detected in other parts of the body. Excess of secretion, the fluid remaining unaltered, is another morbid condition. This excess constitutes the dropsies of the serous cavities, such as hydrocephalus, hydrothorax, hydrops pericardii, ascites, hydrocele, hydrarthus and ganglion. Alterations take place in the quality of the secretions. They sometimes acquire the character of mucus, are sometimes tinged with bile, and occasionally with blood. The admixture with blood is as often cadaveric as morbid. The confinement of this appearance to one cavity, the general state of the body and its freedom from other cadaveric changes, will

generally distinguish the morbid from the cadaveric. In many cases, however, Dr. H. allows it is difficult, if not impossible, to draw the line. Blood has been found in the pericardium where no rupture of the heart or of any vessel was discoverable: not unfrequently in the pleura; often in ascites mixed with the usual fluid; and in hydrocele when it is sometimes pure, forming hæmatocele. Chyle may possibly have been found in the cavity of the peritoneum. That milk should be, is absurd and incredible. A light coloured puriform inflammatory effusion has probably been mistaken for milk.

Deficiency of a whole or a part of the more important serous membranes is rare, except in cases of deficiency of the parts with which they are in contact. Thus in acephalous fœtuses, the arachnoid must of course be wanting. The anterior part of the peritoneum, and the corresponding parietes, have sometimes been wanting, leaving the abdomen open. In these instances, in which the testes have not descended into the scrotum, the reflected portion of the tunica vaginalis is wanting.

Excess is more frequent. It may consist in the prolongation of normal membranes, such as occurs in the arachnoid in congenital protrusions of the brain; in the pleura, in which are sometimes formed appendices, giving a covering to collections of air or fat; in the pericardium and the synovial capsules, where similar appendices are sometimes formed; in the peritoneum, where these prolongations are most frequent and remarkable; in all cases of hernia, congenital excepted; and in the tunica vaginalis. Excess may consist also in the formation of new cavities.

Effects of Inflammation. These are the most common and the most important alterations to which these membranes are subject, and naturally occupy a large part of the attention of our author. The earliest effect of inflammation is the suppression of the secretion, leaving the membrane dry; a state which does not long continue, and can therefore be seldom witnessed on dissection. As the irritation subsides, transpiration returns; but if the inflammation has been violent, the serum exhaled does not possess the usual qualities. It becomes, in most cases, superabundant in quantity, and is mixed with some more solid material, giving rise to various forms of false membrane, and often rendering the fluid more or less turbid and opaque. Villermè considers the false membrane to be always the result of inflammation. He regards them as the matter of suppuration thickened and concreted. Where false membrane is not found after death, in persons supposed to have died of pleurisy, inflammation of the muscles must, in most cases, have been mistaken for it. According to Villermè, an indvidual may die after exhibiting all the marks of pleuritis, and no trace be found on inspection. Dr. H. has never met with an instance in which some marks of inflammation were not to be found. Where the patient has died upon the second or third day, no false membrane may be formed; but there is generally an effusion of sanguineous or puriform serum. In a few instances, he has found an effusion nearly or quite transparent, which, on removal from the body, possessed, though in a feebler degree, the coagulating power of the blood.

Dr. Hodgkin does not agree with Dupuytren, Villermè, and Sir Everard Home, in regard to the formation of the false membranes. He differs from them with regard to the organisable properties of pus or puriform fluid. This he believes to be always more or less excrementitious; and where an outlet from the body is not afforded, it retards the cure by interfering with

the organisation of other substances formed at the same time, particularly the coagulating effusion noticed above. This, which is the coagulable lymph of John Hunter, is the most eminently plastic effusion, and as coagulation advances, it throws out tender diaphanous films, which are found separated by, and infiltrated with, a limpid and often straw-coloured serum. These false membranes are not opaque and cribriform, but continuous and transparent; a condition which militates against the idea of Villermè, who considers them produced by the aggregation of an infinite number of minute flocculi.

There is another form of effusion which is not plastic. It consists of whitish opaque particles diffused through the serum, which, when combined with the more plastic effusion, either renders it uniformly opaque and of feeble cohesion, or sprinkles it with opaque points, or with puriform or tuberculous matter. It differs principally from the plastic effusion, by its entire or nearly total want of vitality. False membranes possessed of this character are a constant source of irritation. The false membrane may itself become a secreting organ, sometimes yielding a particled puriform fluid, sometimes more plastic lymph, which may assume the most perfect membranous appearance, even when the first formed membrane is loaded with opaque matter. When the latter is more organisable, if it be not too much irritated by the inorganisable matter which it has produced, it eventually takes up as much of it as is capable of absorption, and shuts up the remainder in a cyst such as forms around a bullet or other foreign body; the opaque albuminous part being incapable of absorption.

In regard to the manner in which the false membrane becomes supplied with vessels, Dr. H. justly observes that the idea of a real generation of vessels is so repugnant to all our present notions with regard to the circulation, that it cannot be admitted; although red vessels are first seen in the false membranes, without our being able to trace any connection. The other theory, that these false membranes are the bed into which the exhalent vessels extend themselves, is more probable, and is supported by the fact that injections may be thrown into them from the neighbouring vessels. Dr. H. conceives that, at the inflamed part, the minute blood vessels not merely become distended, but that their delicate parietes, and the structure through which they ramify, become softened, and yielding to the pressure of the blood in the distended vessels, give way in numerous points. The very small quantity of blood thus permitted to escape, is not diffused, but is received into the false membrane, appearing in spots which soon assume a dendritic appearance, and, extending in length, become vessels. They are at first feeble and distended, and therefore larger than those from which they proceed, and hence the redness of newly formed membranes; but they afterwards contract and become nearly or quite invisible. The uniformity of size, and the straight and parallel course of the vessels in newly formed false membranes, give them the appearance of muscular fibres.

Where the effused material is most abundant, organisation is most difficult. The surface of the effusion first becomes consolidated, and thus shuts out the internal part from the rest of the cavity; and this, if its organisation does not proceed, becomes converted into pus, and may be gradually absorbed.

When the adhesions produced by the matter effused are not universal, and the motion between the serous surfaces is considerable, lengthened bridles are sometimes formed. Sometimes a delicate false membrane, the product of a highly plastic inflammation, is raised by the serum between it

and the original serous membrane, so as to produce bladders or cysts of various sizes and shapes, sometimes resembling clusters of grapes, in which state they have been mistaken for hydatids. Sometimes they become cylindrical, and form a *cul de sac*. The production of false membrane in the form of cyst, occurs most frequently in the peritoneum. Detached bodies are sometimes found in the cavity of a serous membrane, formed, as Dr. H. supposes, from an isolated clot of coagulable lymph, which, in process of time, acquires a firm and membranous surface. In the soft and recent state, these are of the size and figure of an egg plum, but in the firm and advanced stage, not larger than a pea or a marble.

There is another form of false membrane, which is from the first more adherent to the serous surface than either the very recent membranous films, or the opaque inorganisable flocculi. It has a firm and dense structure, does not become even visibly vascular, and presents an uneven, unattached, sometimes scabrous surface, towards the interior of the cavity. Inflammation, it is probable, may be set up at successive periods, in different parts of the same serous membrane.

When inflammation has attacked any of these tissues, it has a strong tendency to spread. This is most conspicuous where the inflammation is idiopathic; but in cases of injury, the inflammation is more frequently limited to the neighbourhood of the lesion, particularly if both surfaces of the membrane are injured. If a patient have recovered from a wound in the thorax, by which both pleura costalis and pleura pulmonalis have been injured, the pleuritic effusion will probably be found confined to the immediate vicinity of the wound. Wounds of the dura mater, which open into the cavity of the arachnoid, are attended with very great danger, being liable to produce inflammation of that membrane to a very great extent. Yet, when the injury has been greater, extending through the membrane into the brain, and even producing a loss of substance in this organ, the symptoms are comparatively slight. Hence the late Henry Cline, Jr. suggested the propriety of designedly lacerating the arachnoid and pia mater, in cases where the dura mater had alone been wounded.

The false membranes have a tendency after a time to become hardened and contracted, and lose their vascularity. They become narrower, forming bridles, which in time may be separated by a natural process. To this contraction of the false membranes, Dr. H. attributes the remarkable retrocession of the chest in a patient who recovers from empyema. In persons affected with jaundice, these membranes are tinged with yellow.

When the effusion has been small in quantity, much diffused, and of the most plastic quality, it ultimately becomes a loose cellular web. When the quantity has been greater, and the inflammation protracted and chronic, very probably from the admixture of opaque particles, the form ultimately assumed is dense and semicartilaginous.

Pressure diminishes the amount of the fluid secreted. Thus when the lung is inflamed at the same time with the pleura, the lung does not become collapsed, as after cases of simple pleurisy; and we find the solid product of inflammation abundant, while the serum seems to be nearly or entirely absent.

Serous infiltration of the cellular tissue is very common, and is more frequent and remarkable where the membranes are thin, hence the best examples of it are seen in the arachnoid and in the tunica vaginalis. The

swelling of the scrotum from infiltration of the cellular membrane is a well known consequence of the injection for the radical cure of hydrocele.

The formation of bony plates beneath the serous membranes is a frequent occurrence, as the material there effused has a tendency to become dense and hardened, the covering afforded by the membrane favouring the deposition of bony matter. The opposite state, in which the effusion is more or less puriform and widely diffused, and the cellular structure very lacerable, is found in conjunction with the turbid and puriform effusion into the cavity of the serous membrane.

The subserous cellular membrane is sometimes itself primitively affected. It affords the bed in which commence those adventitious deposits described as steatoma, cancer, tubercles, hydatids, and scrofulous, fungoid, and melanoid tumours.

Gangrene is extremely rare, especially in idiopathic inflammation.

The effects of scrofula are not confined to the production of distinct collections of a scrofulous deposit in the cellular membrane, or the attached surface of the serous. Collections of tuberculous or scrofulous matter are sometimes found on the smooth unattached surface. The varieties of malignant disease are almost exclusively confined to the subserous cellular membrane; yet we may occasionally find minute bodies having the character of scirrhus, in the substance of serous membranes, in individuals known to be the subjects of malignant disease. The presence of hydatids in the serous cavities must be looked upon as wholly accidental, the consequence of their escape from the seat of their formation.

Wounds penetrating these cavities are apt to develope a form of inflammation which is characterised by the want of plasticity of its effusion.

It is rare for one serous membrane to communicate its inflammation to another in its immediate neighbourhood. Traces of inflammation, however, are often found concurrently at the base of the right lung and on the convex surface of the liver. The same thing is observable, though less frequently, with respect to the left pleura and the peritoneum in the neighbourhood of the spleen. The serous membranes are united by an inexplicable but indubitable sympathy. Thus in rheumatism, the inflammation of the synovial membranes is often followed by pericarditis. At other times it is the pleura that is thus affected. Dr. Foville has seen articular rheumatism subside upon the sudden production of hydrocele, and again, a return of the rheumatism upon the cure of the tumour. That species of inflammation of the kidney which has been described by Dr. Bright is accompanied by a general tendency to disease of the serous membranes. A proof of the morbid sympathy existing between the serous membranes may also be seen when they are affected with cancerous or fungoid tubercles. When growths of this kind have been formed about the peritoneum, there is not unfrequently found a sprinkling of the same kind about the pleura; and sometimes, though more rarely, about the pericardium.

We have thus given a pretty full abstract of our author's second lecture, which may be considered as a summary of the contents of the volume, particularly so far as relates to normal serous membranes. He next proceeds to the consideration of each membrane and the alterations produced by disease, treating of these alterations according to the arrangement given in the table. The third lecture is occupied with the Arachnoid.

Dr. H. divides this membrane into four portions, the alterations of each of which he discusses separately. The first portion is that which is ex-

ternal to the brain. The second, that which lines the ventricles. The third is the portion which belongs to the plexus choroides. The fourth is that of the spinal chord.

First portion.—The product of inflammation here, is more frequently purely serous than elsewhere. Dr. H. has seen only one instance of puriform secretion or false membrane between the polished surfaces of the arachnoid, and in this case the inflammation appeared to depend upon a local cause; the irritation excited by a lumbar abscess which communicated with the spinal chord. Dr. H. thinks such effusion may take place without external cause. As a consequence of injury, it is not uncommon.—Adhesions between the two surfaces are very rare; but sometimes met with, particularly after some cause of local irritation, such as tumours or injuries of the head.

The results of inflammation on the attached surface, especially that in contact with the pia mater, are as frequent as they are rare on the polished surface. "It is in this situation we are accustomed to look for and find, pathological appearances, in those cases of acute disease which are marked by a high degree of fever, by pain of head, delirium, convulsions, and often ultimately by coma; symptoms, which in children are recognised as indicative of acute hydrocephalus; and in adults, of brain fever, phrenitis or rather meningitis, if the practitioner be acquainted with modern pathology.

After the most active symptoms of arachnitis we often find nothing but serum infiltrated behind the arachnoid; but we sometimes meet with a coagulable and more frequently a puriform effusion. In almost every case of arachnitis the membrane becomes thickened. A large quantity of serum is sometimes found beneath the arachnoid covering the brain, in cases where the inflammation, if any, must have been of a very chronic character. Ossific deposits are rarely found beneath the arachnoid investing the brain, but they are often found between this membrane and the dura mater lining the cranium. Fungoid tumours are sometimes formed in the pia mater, of the size of a cob nut, producing a corresponding depression upon the surface of the brain, which does not appear otherwise affected. In other cases, the brain has participated in the disease.

Second division.—Arachnoid lining the ventricles. "This membrane may be the seat of either acute or chronic inflammation. In both of these states, there is often a copious effusion of a purely serous character, constituting either acute or chronic hydrocephalus internus, in the same manner that the serous effusion under the arachnoid covering the convolutions constitutes hydrocephalus externus. This is the most frequent effect of arachnitis affecting that part which lines the ventricles; and in conjunction with this effusion, the membrane becomes thickened, semitransparent, pulpy, and sometimes sprinkled with minute spots of blood."

It is rare to find flakes of recent coagulating lymph in this situation, but we sometimes meet with old adhesions. The inflammatory effusion is sometimes of a non-plastic character assuming the appearance of a thin sero-purulent fluid. The surface of the membrane is occasionally sprinkled with very minute and tolerably firm elevations, resembling finely powdered glass.

Third position.—Arachnoid of the Plexus Choroides. When serous effusion takes place here, it is generally collected into small cysts, which give to the plexus an appearance like that of a bunch of currants. They vary in size from that of a millet seed to the diameter of a third of an inch.

The plexus occasionally exhibits numerous opaque whitish spots diffused through its whole length. It is, however, more common to find the effused matter collected at a particular spot, which is generally near the commencement of the descending cornu. This has sometimes occurred on both sides, forming a well defined tumour as large as a barbary-berry, or even a horse bean. These bodies are sometimes soft, but they are liable to become loaded with earthy matter, giving them the character of petrifactions. The plexus is sometimes found extremely exsanguineous and pale, even when there has been much cerebral excitement.

The cerebral arachnoid is liable to effusions of blood either spontaneous or from violence. The possibility of these effusions, Dr. H. considers a sufficient answer to those who doubt the existence of a lining membrane to the dura mater. He gives a case in which it occurred at Guy's Hospital. The production of scrofulous tubercles, and the development of fungoid tumours, he considers additional proofs, if any were wanting. Fungoid tumours formed on the attached surface, not merely raise the membrane and demonstrate its existence, they sometimes occasion the absorption of the dura mater, and ultimately the cranium, so as to protrude externally.

Fourth division.—A. of the Spinal chord. This Dr. H. tells us has been found by Dr. Sharpey, to consist of four layers; one being the dura-matral sheath; one investing the chord itself; and two layers within these, so closely applied, and in general so thin and diaphanous, as to appear but a single membrane. The cellular membrane of the arachnoid which forms the pia-matral covering of the medulla, is less vascular and less loose and abundant, than that of the brain, but closely resembles that covering the pons varolii and medulla oblongata, with which it is continuous. Congenital deficiency of this membrane seldom or never occurs. An example of its excess is found in spina bifida.

Inflammation of the spinal arachnoid is not rare, but the patient seldom dies at a period sufficiently early, to allow of the inspection of recent alterations. The fluid effused, even when the result of inflammation, is more frequently serous than puriform. A small quantity of lymph may sometimes accompany it, as is proved by the old adhesions not unfrequently met with.

The thickening and contraction of the spinal arachnoid, Dr. H. considers as an occasional cause of paraplegia, which will be more or less complete, according to the amount of compression exercised on the spinal chord. When the case is not an extreme one, progressive improvement may take place, both by the chord becoming accustomed to the pressure, and by the slow and partial absorption of the adventitious deposit within the membrane. To this cause, he attributes the gradual improvement sometimes witnessed in paraplegia; and adds a caution against the perseverance in very active measures of treatment, such as copious local depletion, deep and extensive issues, &c.; which may increase the dangerous sloughing of parts exposed to pressure, while deprived of their ordinary degree of innervation.

When the membrane has been injured by violence or excessive cold, the spinal chord itself is sometimes softened, or its cineritious substance is unusually injected, sometimes it presents a vermiform or annulated appearance, which may be attributed either to the compression of the contracted arachnoid, to the turgescence of the affected part of the chord, or to both causes combined.

Small patches of bony or cartilaginous matter are sometimes found about the chord, from the size of a pin's head to that of the finger nail or more, and varying in thickness from that of a peppercorn to a melon seed. These spots are frequently met with in tetanus, fatal chorea, and other diseases in which the spine has been supposed affected, and they have been considered a cause. They are however not always found in such cases; and they have been found in subjects, where these symptoms were wanting. Dr. H. regards them, however, as undoubtedly morbid secretions, and as indications of such a want of integrity in the chord as may predispose to tetanus, chorea and the like affections.

The pericardium forms the subject of the fourth lecture. This Dr. H. remarks, forms one of the best examples of a serous membrane. It is rarely deficient, most cases of its supposed absence being probably merely cases of pericarditis terminating in its close and universal adhesion, but two undoubted instances are recorded, one by Dr. Baillie, and the other by Breschet. He knows of no example of congenital redundancy, unless the bridles and membranous bands which unite its two surfaces are congenital; an opinion held by Tioch and others, but to which our author does not incline. It is preternaturally increased in size, in hypertrophy of the heart, in cases of inflammatory or hydropic effusion, and from the development of tumours. The effects of inflammation are such as belong to the serous membranes generally. Its secretion is often preternaturally increased, forming hydrops pericardii, which may, in general, be distinguished from pericarditis, by the presence, in the latter, of a few films of false membrane. These two diseases have a tendency to pass into each other. Dr. H. thinks that pericarditis is much more common and much less dangerous than has hitherto been supposed. When the quality as well as the quantity of the fluid effused is altered, we have either coagulable lymph or an effusion of a more puriform character. The former leads to the formation of the most perfect cellular adhesions. The surfaces of the close and reflected portions, sometimes become so intimately united as to give rise to the opinion above alluded to of the absence of the pericardium. In other cases, the adhesion is looser. In a third variety, it is formed of a multitude of filaments. In a fourth, by broad and membranous layers. Bridles of adhesion connecting the opposed surfaces are common. Our author thinks that adhesions are correctly considered as always the result of inflammation. When there is much non-plastic matter effused, their production is prevented; in which case the surface of the heart is not unfrequently covered with long shaggy, soft, and very feebly organized villi. It is this appearance that has given rise to the improbable stories of the heart being found covered with hair. In other cases, in which adhesion is prevented, the surface of the false membrane presents a reticulated appearance which has been compared to the *bonnet* or second stomach of a calf. When the matter is of the most inorganizable kind, it has a puriform appearance.

The pericardium is apparently more prone than any other serous membrane to assume the scabrous appearance, spoken of above. Plates of bony matter are apt to form upon the attached surface, and when extensive, it has been erroneously described as ossification of the heart. The opaque white patches which are often found upon the surface of the heart, our author considers as the result of pressure; that of an uneven and remarkably indurated liver, for example: or a bony deposit beneath

the reflected pericardium. The motions of the heart aid the effects of pressure in producing these appearauces. Traumatic pericarditis is of course very rare. Dr. H. refers to one case, mentioned by Dr. Ferrus. Gangrene is extremely rare. Bloody spots are sometimes found, and are the effect of purpura rather than inflammation. Scrofulous tubercles are very uncommon. Tumours are, perhaps, sometimes, though not often met with. Acephalocyst hydatids have been found between the close pericardium and the substance of the heart. In one specimen, presented to Guy's Museum, there were acephalocysts of various sizes, sufficient to fill a quart measure. The sac containing them was situated in part, beneath the close pericardium, and in part beneath the pleura pulmonalis of the right side.

Lecture fifth embraces the morbid conditions of the pleura. The inflammatory effusion here often assumes a semi-cartilaginous appearance, especially when the inflammation is chronic, which it is liable to become when the fluid part of the effusion is not absorbed, or when organization is retarded by the presence of non-plastic matter. When this matter is very abundant and diffused through the fluid, in the form of minute particles, it constitutes empyema—a term now generally restricted to the collection of a puriform fluid in the cavity of one of the pleuræ.

Our author proceeds to a full and interesting discussion of the subject of empyema. He observes that the most favourable termination of chronic pleuritis consists in the contraction of the chest; which often takes place notwithstanding the presence of a considerable quantity of inorganizable matter, which remains after the serum is absorbed or removed. This matter is shut up in a cyst or envelope, and sometimes acquires a bony structure. It is the contraction of this new membrane, rather than the absorption of fluid, which causes the contraction of the chest that ensues to a remarkable degree, while it had hitherto been preternaturally distended. The fluid of empyema is sometimes evacuated by a process called empyema of necessity, in which a spontaneous opening is formed. Dr. H. thinks that this process is conducted in a manner more common in the peritoneum. When a considerable quantity of inorganizable matter has collected, ulceration takes place in that part of the serous membrane, with which it is in contact; and by a continuation of the same process, the external opening is effected. This supposition of our author is the more probable, because this process resembles that generally employed to remove a foreign substance from the body; and it is in this light, that the inorganizable matter must be considered.

His remarks upon the method of making the opening for the escape of the fluid of empyema, are worthy of attention. Where the operation is not urgent, he prefers the use of caustic to that of the knife or trocar; because, in the first place, this method resembles the process of nature above described; and, secondly, because strong external irritation is one of the most powerful means of promoting absorption. Whilst we are preparing for the escape of the effusion, we are giving nature the best chance of removing it herself, and we perhaps may find that before an opening is effected, the plan may be changed, and the cure completed by one or more additional cauteries. The use of the trocar may be resorted to subsequently, if it should be necessary, and with greater probability of a favourable result; since the cavity is found in some degree prepared for the opening, whereas it is taken by surprise, when the trocar is first

used. Dr. H. mentions an instrument, contrived by Dr. T. Davies, for making an experimental opening of the chest. It consists in a needle-pointed stilet, which gradually increasing in size, becomes, at its thickest part, of the size of a crow-quill.

The fluid of empyema sometimes finds an exit, by a communication between the cavity in which it is seated, and the bronchial tubes. This produces one of the most frequent forms of pneumo-thorax, and it is, in these cases, that the stethoscopic sound called "metallic tinkling" occurs. For the production of this symptom, there should be not only a large cavity containing both air and a liquid, but likewise, a communication between this cavity and the air tubes. It takes place also in those cases of phthisis, where a large portion of the lung is excavated.

Dr. H. describes a particular appearance of the pleura which occurs when the matter deposited by chronic inflammation has assumed a close, compact, and almost semi-cartilaginous character. It is produced, as he supposes, by the presence of a soft, yet concrete and inorganizable material, which interferes with the organization of the false membrane, and hence produces depressions in it, giving it a worm-eaten appearance, resembling the effect of ulceration. This material is easily removable, leaving a clean and well defined margin and surface to the depression which it has occupied.

In the sixth lecture the peritoneum, tunica vaginalis, and bursæ are considered. Dr. Hodgkin discusses, as in the other membranes, the degree of proneness of this to deficiency or excess; the alterations of its secretions and the effects of inflammation. He describes a circumstance not particularly noticed by other authors, the formation of false parietes from excess of plastic matter. This false membrane is firmly united to the intestines, dipping down between their evolutions; presenting an even surface to the parietes, and remaining unattached to them, except at the margin of the layer formed by the adventitious deposit. He relates a case in which this formation occurred.

A peculiar result of inflammation is met with occasionally, which is confined to the surfaces of the liver and spleen. It consists in a very remarkable semicartilaginous thickening, interrupted by spots of a circular figure and small size, at which the thickening is either very inconsiderable or is wholly wanting; they may be either distinct or confluent. The surface so affected has a honey-comb or worm-eaten appearance, like that noticed in the pleura. Dr. H. has seen two cases in which the free surface of the peritoneum appeared to be deranged by malignant disease. Detached secretions of a rounded figure and semicartilaginous or bony form are met with occasionally.

Within the synovial capsules loose bodies are sometimes found which Dupuytren supposed to be hydatids. Our author believes them to owe their origin and form to the obstacles which even the most plastic inflammation must find to the production of adhesions. The most violent constitutional irritation has followed a puncture for the removal of these bodies.

The dropsy of the serous cavities would seem from the observations of our author to be more frequently the result of inflammation of these membranes than other recent writers suppose. Disease of the heart or lungs, disease of the liver with obstruction, Bright's disease of the kidneys, may be occasionally causes of ascites, but one of the most common causes, he says, is exposure to cold. Although the effusion may have commenced

independently of inflammation, the effused fluid is very likely to set it up in a chronic form.

The seventh lecture is occupied with a digression upon the subject of parasitical animals. This might seem rather out of place in connection with the serous membranes, particularly as it includes those which infest the intestines. Our author, however, conceives this to be necessary before proceeding to the abnormal serous membranes, which come next in order, because the adventitious serous cysts have so generally been confounded with hydatids. Dr. Hodgkin considers hydatids as parasitic animals, because they are found living distinct and unsupported by any connection with the organs in which they are met with. They also have the peculiarity of producing each other. The natural cure of hydatids is effected by the formation of a communication between the cyst containing the hydatids and either the surface of the body, the intestinal canal, the bladder, or some other cavity that has an external outlet. In other cases the animal dies, its fluid is absorbed, and its membrane is folded and shut up as an inert body within the outer cyst, which contracts upon it. Their death is occasionally followed by an abscess. Dr. H. thinks that cures might undoubtedly be effected by art. Some remarkable cases appear to have been treated with success by Dr. Recamier. He suggests the trial of acupuncture or electropuncture. From the effect of turpentine and of Deppel's oil as anthelmintics he thinks them worthy of trial internally and externally. Saline purgatives have sometimes caused their evacuation. When they are abundant in different parts of the body, their death is not desirable, as the irritation produced by the presence of so many inert bodies, must be attended with serious consequences. Our author notices the trichina spiralis, a little worm affecting the muscles of voluntary motion, which has been recently discovered. Richard Owen, by whom it was first observed, considered it allied to the eels found in paste and vinegar. Dr. H. adopts the theory of the existence of seminal animalcules, which has been disputed, and admits the possibility of spontaneous generation. In these two points we cannot agree with him. The latter seems to be somewhat involved in the former, and in the separate existence of hydatids. It is easy to conceive that the eggs of those animals that are found in the intestines are introduced into the system in various ways, but the hydatids, if animals, seem to be viviparous, not oviparous; and at any rate, they are found in parts of the body to which there is no external inlet or avenue. The same is the case with the semen. Although, therefore, the doctrine of the separate existence of hydatids seems to be pretty generally adopted, we confess it is one to which we cannot reconcile ourselves. We have not room, however, to discuss this subject at present.

In the next chapter, we come to the adventitious serous cysts. Our author remarks that whatever may be the nature of hydatids, he thinks he has given sufficient reason for their distinction from these cysts; the former being found loose and unsupported, and the latter closely attached and nourished by vessels proceeding from the part in which they are contained.

These cysts are divided into two classes, those that form around an external body, and those that produce their own contents. The second class form the subject of present consideration. Of these he wishes to distinguish and set aside, four species that have been classed with them as pro-

ducing their own contents. 1. Hydatids; 2. subtegumentary encysted tumours; 3. cysts formed by the parietes of an obstructed canal; 4. cysts formed by the distention of natural cells; such as the enlarged vesicles of De Graaf; 5. cysts formed in the thyroid gland, such as constitute bronchocele.

Having set off these, he divides the remainder into two classes, simple and compound. The first are found solitary, or if associated with one or more similar to themselves, the connection is merely accidental. The other class possess the remarkable property of giving rise to growths, having the same character with themselves.

Serous cysts of the simple class are found in the plexus choroides, in the eyelids, in the lungs, in the mamma, and in the neighbourhood of the uterus.

Of the compound cysts, the largest and most interesting are those which are found in the neighbourhood of the uterus, in or near the ovaries, and in the folds of the broad ligament. The parietes of these cysts are found studded with elevations or tumours, which, upon examination, are perceived to contain within them other tumours of a similar kind, the membrane or cyst of which covers the outer tumour, being reflected so as to form the cyst of the one within it. Besides the contained cyst, there is found also a quantity of serum or mucus in each sac. Cysts of the secondary order, Dr. H. observes, not unfrequently afford as complete a specimen of reflected serous membrane, as the pericardium or tunica vaginalis. These tumours are distinguished from hydatids, because the secondary cysts are attached to and continuous with, the internal surface of those in which they are contained; and because delicate vessels are seen ramifying from the one to the other. The superior cysts sometimes become distended and ruptured by the formation and growth of an inferior order of cysts, or by the accumulation of fluid, and discharge their contents into the containing cyst; and thus allow of the unrepressed growth of those which they contain. The cysts thus opened, bear a considerable resemblance to mucous follicles, and appear to be the principal source of the copious and rapidly formed mucous secretion, characteristic in many cases of ovarian dropsy. The effusion of plastic matter, when the membranes of these cysts become inflamed, produces adhesions which render it difficult to demonstrate their structure. There are two varieties, which differ from those above described, the first consisting in the attachment of the contained clusters by slender peduncles, and the second, by broad and flat connections. The three forms may however exist in one cyst, though there is generally a preponderance of one or the other.

A possible cause of these tumours, Dr. H. thinks, may arise from the lesion attending the escape of vesicles, which may occur in virgins as well as others. This growth is more rapid, because the parts in which they arise are accustomed to obey a stimulus to an increased supply of nourishment: because these parts are abundantly supplied with blood; and because the situation exempts them from all pressure or restraint. Dr. H. thinks that the only effectual cure is by their extirpation, to which he thinks there can be no absolute objection, if done sufficiently early.

The same form of tumours occurs in what has been called hydatid testicle, and hydatid breast. Sometimes it occurs in the eye. One of the forms of staphyloma, which is not malignant, appears to be of this nature.

In the ninth lecture, we have the consideration of the results of malignant disease. Here we have: first, adventitious cysts accompanied with a constitutional taint. Second, scirrhus. Third, fungoid disease. Fourth, melanosis. Our author thinks that all these have general points of resemblance. He believes that the common method of examining such tumours by making sections through their substance, especially after they have been immersed in alcohol, is deceptive, and that the best preparations do not supply the place of recent specimens.

By a carefully conducted dissection, we shall, according to him, arrive at appearances similar to those described in the last chapter. He describes the formation of these heterologue tumours as analogous to that of the ovarian cysts. In short, if we conceive of the various forms of cyst which may be composed with a reflected membrane, such as the tunica vaginalis, we have the composition of these tumours. Within the larger cysts are secondary cysts, in the same manner as in those before described. Pressure, impeded nutrition, and deaths are occasioned in these as in the ovarian tumours, by strangulation from the growth of the secondary cysts. The effect, however, is different. The dead cyst, having become a foreign body, excites inflammation in the parts with which it is in contact. The result of this, is the formation of a cavity filled with broken down and softened matter, intermediate between suppuration and gangrene. This often takes place before the tumour shows any external symptom of irritation or inflammation, but it requires that the supply of nutriment should be pretty promptly cut off by the natural ligature.

These tumours produce by their irritation a thickening of the surrounding cellular membrane to a less or greater degree, and dilate the integuments so as to become visible externally. The points most distended inflame, and the inflammation proceeds to ulceration. The tumour either sprouts vigorously in consequence of the removal of pressure, or what is more frequent, participates in the ulceration. The ulcer formed has been considered characteristic of malignant disease. It has elevated and everted edges with a ragged and depressed central portion which is bathed by an unhealthy secretion.

Its growth is most luxuriant at its circumference, both on account of the want of pressure, and from the increased supply of nourishment. The central parts have to encounter the pressure of the surrounding parts of the tumour; and at the same time, all supply of nourishment from the natural structures, is cut off by the ulceration of the integuments. The depth and irregularity of the ulcer is increased by a communication which is formed with the cavity in the interior of the tumour. By making a section through the diameter of the ulcer in a recent specimen, proof will almost always be found, that the elevated margin is composed of radiating pedunculated bodies; whilst in the centre, this disposition is less distinct; the structure is more condensed and there is little if any trace of organization.

With regard to the manner of distinguishing malignant tumours our author concludes a discussion upon this subject as follows: "For my own part, I should, in examining a tumour in the living subject, be in general disposed to suspect what has been called malignity, whenever I could detect indications of the structure which I have described, accompanied with alterations of the surrounding structures, referrible in their origin to some external violence, or to a pre-existing indolent tumour. These suspicions would be proportionally stronger, if the tumour in question occurred in a

part known to be rarely if ever affected with that now malignant and well defined form of tumour commonly termed 'hydatid,' which in common with those of a malignant character, distinctly possesses the structure alluded to. My suspicions would be converted into absolute certainty, in proportion as the other symptoms previously detailed were united to those which I have assumed, as presenting themselves in the suspected tumour."

Dr. H. remarks that the structures of the body possessed of the best vitality, such as nævi materni, the thymus gland, the suprarenal capsules, the mammæ are, most frequently, the seats of malignant disease. This liability he considers to depend rather upon innervation than upon vascularity.

The distinctions between scirrhous and fungoid tumours, form the subject of the next lecture. True scirrhous tumours sometimes appear to depend upon a single primary tumour; at other times, several can be distinctly traced. The part of the tumour which appears to have been the common origin of the primary cysts, where there are more than one, or from which the contained pedunculated bodies radiate, when there is only a single primary tumour, is, in general, the most indurated portion, and at the same time, the most indistinct in its structure. When examined after the surrounding structures have been carefully dissected off, this part is found irregular and corrugated, suggesting the idea of its having formed a sort of root to the adventitious structures. True scirrhus may remain indolent for a length of time. Before ulceration takes place, the tumour becomes adherent to the skin, and a small spot becomes of a bright or cherry red, or a livid purple colour, before the skin is broken.

Dr. H. is of opinion that scirrhus never degenerates into fungus, although they frequently exist in different parts of the body of the same person. True scirrhus, he thinks, has sometimes been cured spontaneously, the tumours becoming detached by the sloughing of the surrounding tissue, and thus completely thrown off from the system. The occasionally successful practice of empirics, whose principal agent appears to be arsenic, consists, he thinks, in the attempt to induce this process artificially. He mentions a lady afflicted with cancer of the breast, who placed herself under the care of a female quack; and by the use of secret means, the tumour was detached entire. The wound was closed, leaving a very trifling cicatrix, and the lady has had no return of the affection. Dr. Viale at Rome, informed him that he had long been in the habit of adopting a similar plan, in malignant and other tumours, with very considerable success.

Fungoid disease may, in general, be distinguished from scirrhus by its more rapid progress, the prodigious size to which the tumours sometimes arrive, and by its superior vascularity. Its greatest ravages occur in the young; while true scirrhus is almost exclusively the disease of advanced life. The fluid matter is very abundant in the former structure, while in scirrhus it forms scarcely a notable part. The secondary cysts of fungoid tumours, which are often large, generally become filled with a material at first resembling feebly coagulated fibrine or plastic lymph. New vessels shoot into this substance which loses its vitality, gradually becomes opaque, and resembles the brain of a child.

The cellular structure around scirrhous tumours becomes frequently inflamed by the irritation they produce, and is thereby thickened and indurated. The implication of the nervous fibrillæ in this altered structure,

Dr. H. considers the cause of the peculiar and lancinating pains that attend an access of inflammation to which the affected part is constantly liable.

The eleventh lecture, upon the subject of colours, we must pass over, and proceed to the twelfth, and last of this volume, which is occupied with those malignant tumours that have obtained separate attention in consequence of their colour.

The first of these is cirrhosis, which he considers only a modification of fungoid disease, and hardly requiring separate consideration. The yellow colour is merely an accidental character attached to a particular form of malignant disease, in a particular state of its existence.

Melanosis derives its black colour from a highly venous state of the blood, induced by its prolonged stay in the vessels. It has always an encysted form. When the tumours are situated in loose cellular membrane, they have always a rounded shape; but when subjected to pressure, they are modified by this cause. The two most obvious characteristics of melanosis are the black colour, and the production of a new growth possessed more or less distinctly of the characters of the whole group of adventitious deposits that have been described. Dr. H. describes lastly a species of firm fleshy tumour, distinguished by its peculiar structure, and the obscurity of the encysted character, which nevertheless essentially exists in it. The best specimen he had seen grew from the neighbourhood of the scapula. He regards them as of a fungoid nature. This lecture concludes with a full discussion of the various theories which have prevailed or have been put forth with regard to malignant tumours. The appendix contains many cases in addition to those dispersed throughout the lecture, illustrative of the doctrines and descriptions therein contained.

The whole of the volume is highly interesting, the style of our author is elegant, and his descriptions are clear and lucid, and undoubtedly accurate. Perhaps he may be a little disposed to theorise: an inclination with which the less fault can be found, since his high standing as a morbid anatomist, render even his theories valuable. The diffuseness of the lecture style, while it renders his descriptions, we think, more clear, and certainly more pleasant, is unfavourable for quotations: from which we have therefore been obliged to abstain, except in one or two instances. One recommendation of the work we ought to mention, as it is an important one, in a book intended for general use. The author has purposely abstained from the introduction of plates, in order to render it less expensive; and therefore more accessible than the works of Carswell, Cruveilhier, and others. The second volume has not yet appeared, and we regret to learn that the health of Dr. Hodgkin is such as to afford no present probability of his prosecuting the work. E. W.

Article XIII. *First Principles of Medicine.* By Archibald Billing, M. D., &c. &c. Third Edition, considerably Enlarged and Improved. 8vo. pp. 282. London: 1838.

Dr. Billing deserves the thanks of the profession for his attempt, in the volume before us, to reduce into a small compass, and at the same time to simplify as much as possible, the principles of general pathology and therapeutics. His doctrines of the nature and treatment of diseases are

professedly the result of an extensive clinical experience, and based upon the well established physiological laws of the animal organism.

However we may be inclined to deny the accuracy of some of the doctor's positions, and the legitimacy of many of his deductions, we cannot but concede to his views, in general, the praise of great ingenuity and plausibility, while, in many respects, we admit, that they present a much more rational explanation of the phenomena of disease and of the curative effects of remedies, than the leading hypotheses of the day.

Although small in size, the work of Dr. Billing contains so large an amount of novel ideas, concisely expressed, though not always very logically arranged—while his physiological, pathological, and therapeutical expositions are so intimately blended, the one constituting the proof or illustration of the other—that it is somewhat difficult to present a satisfactory analysis of its contents.

To understand distinctly the author's views of inflammation, fever, and the neuroses, to which three classes he would appear to refer all the usual groups of morbid phenomena, it will be necessary to premise some few of the leading physiological positions advanced by him.

The nerves, he maintains, are distributed to every part of the frame, however minute, for the purpose of supplying to them nervous influence, which excites action. He supposes the muscles and capillary arteries, though differing in tissue, to have each inherent in their structures, a faculty of contracting (*organic contractility*), which being acted upon by the nervous influence, the result is contraction: the nervous influence being discharged into them from the nerves. This discharge may be produced in a variety of ways: as by the blood in the heart or capillaries, the presence of food in the intestines, or, in the muscles, by the will, whether the operation be direct or by *reflection*, these being known agents of contraction in the animal.

"We have reason to believe that the nervous influence is generated, or secreted, in the cineritious (gray) part of the nervous system, and conducted by the medullary (white) part; the medullary part in the spinal cord and brain being an aggregation of nerves from the frame. And a variety of circumstances lead us to the conclusion, that the nervous influence is analogous to, or depending upon, if not identical with, the electric principle or fluid, whatever that be."

While we may admit the first of these suggestions, the second position, namely, the dependence of the nervous influence upon the electric principle, is disproved by so many facts, that with Müller, we must entirely deny its accuracy.

All organic action the author asserts to be contractions produced by nervous influence. He, therefore, denominates the susceptibility of any tissue to contract, organic contractility; its contraction, organic action—sensibility being considered by him solely a property of the nerves.

The energy of parts depends, according to Dr. B., upon a something that is communicated to them by the nerves in conjunction with the brain and spinal marrow; while they are supplied with this nervous influence they retain their power of action, and no longer. Thus arteries become insusceptible of impressions from external agents when the nervous energies are low; and when the vital powers are sunk the capillaries cease to secrete. Nervous influence is elicited in producing *nervous actions*, such as perceptions or thought; *organic actions*, such as of the capillaries,

heart, or intestines; and the *combination of nervous* and *organic actions*—voluntary motion.

"If this expenditure exceed the supply, or secretion, by the cineritious part of the nervous system, exhaustion is evinced in various ways: in health by sleep; in disease by delirium, stupor, or death."

"Sleep is a *cessation* of that expenditure of nervous influence which takes place in nervous action; such as volition, and other functions of the sensorium, organic action continuing. The expenditure of nervous influence going on under ordinary circumstances, quicker than the generation of it, a periodical return of sleep is induced."

Animal heat is, agreeably to the views of our author, extricated, all over the frame, in the capillaries, by the action of the nerves during the change of the blood from scarlet, arterial, to purple, venous; and also whilst it is changing in the lungs from purple to scarlet.

"There is," he remarks, "a perpetual deposition, by the capillary system, of new matter, and decomposition of the old, all over the frame, influenced by the nerves; in other words, the galvanic influence of the nerves, which occasions these depositions and decompositions, keeps up a slow combustion. In this decomposition there is a continual disengagement of carbon, which mixes with the blood returning to the heart at the time it changes from scarlet to purple; this decomposition being effected by the electric agency of the nerves, produces constant extrication of caloric; again in the lungs, that carbon is thrown off and united with oxygen, during which caloric is again set free; so that we have in the lungs a *charcoal fire* constantly burning, and in the other parts a *wood fire*, the one producing *carbonic acid gas*, the other carbon—the food supplying, through the circulation, the vegetable or animal fuel from which the charcoal is prepared that is burned in the lungs.

"It is thus that the animal heat is kept up. On the other hand, the evaporation of perspiration keeps the surface cool; but in inflammatory fevers, where this is deficient, the body gets too hot; and in low fevers, where the nervous influence is not sufficient to keep up the full fire, the surface gets cooler than the natural standard."

With this brief notice of some of the leading physiological views advanced by our author, we shall be prepared to understand his pathology of inflammation and fever.

He very properly remarks that every disease is some alteration of those actions, which, when perfect, constitute the welfare of the animal. In inflammation, the first action of the morbific cause is upon the nerves appropriated to the capillaries, diminishing their energy, and consequently the contraction or organic action of the latter; in consequence of which the capillaries dilate, and receive a larger amount of blood than in their healthy state, which is also transmitted more slowly to the returning vessels or veins. The action of the capillary arteries in an inflamed part is hence weaker than in parts of similar texture unaffected with inflammation—which is proved by the redness and swelling of the inflamed part. The enlargement of the vessels observed in a tissue labouring under inflammation, and the consequent increased redness and intumescence of the tissue being the result of diminished contraction, or action, of the vessels, allowing them to give way and become dilated by the injective force of the heart.

The difference between congestion and inflammation is, according to Dr. B., that in the former there is simple distension of vessels; in inflam-

mation there is more or less alteration of tissue, connected generally with deposition in some way of coagulable lymph.

"The moment congestion is relieved, the parts are in their natural state; but even after inflamed vessels are unloaded, time is required for recovering their natural state. A good example is the congestion of the lungs in fever, which often leaves no symptom when the fever is relieved; but after inflammation of the lungs has been stopped, the injured vessels require time for restoration."

This exposition of the author appears to us to besufficient to show that, contrary to his opinion, inflammation consists in something more than over distension of the capillaries of a part consequent upon their enfeebled action.

"The progress of inflammation shows the dependence," remarks Dr. B. "of the capillaries on the nerves. A part may, in certain cases, be observed to become tender before it is red; for it may be seen by experiment that the pleura or peritoneum of an animal is not tender immediately on exposure; it first becomes tender and then red. In inflammation of the conjunctiva of the eye, it becomes painful, feeling as if there were sand under the lid, some time before becoming red. The action of cantharides in producing inflammation is another proof that inflammation begins in the nerve: for cantharides have no effect on the tissue of the capillaries, do not corrode or act in any way on their substance after death, when the nerves have no influence; whereas any really corrosive agent would act even more on the dead than on the living capillaries. Without, therefore, at present seeking for further proofs, I deduce from blushing, and from the effects of electricity, fire and cantharides, that the capillaries depend upon the nervous system for that tone or energy which preserves them from over-distension. The brain, spinal cord, and nerves, again depend upon the due nutrition by the arteries supplying them with scarlet blood."

Dr. B. very properly objects to the terms in common use, of blood being *detained* in a part by local irritation; the blood being merely delayed in the inflamed tissue in consequence of the increased capacity of the vessel causing a slower current there; and of the *determination* of the blood to a particular part—the heart, he remarks, has no power to direct any blood to one part more than another, but, if in any part there be an unusual relaxation of the vessels, they will receive more than ordinary.

"As long as the capillaries are supplied with nervous influence, as long as they possess perfect organic action, they preserve a due size; when they lose it, either from the influence not being supplied from the nervous system, or are robbed of it by heat, electricity, cantharides, or other cause, they give way, and admit more blood than before. Taking this view of the proximate cause of the enlargement of the capillaries, we can account for all the varieties of congestion, from a single transient blush to the stage with which inflammation commences; and it must be impossible to draw a line between congestion and inflammation, one passing into the other by insensible shades. Hence the numerous terms used by authors to express the gradations of distended capillaries; congestion, active and passive, engorgement, hyperæmia, erythema passing to erysipelas, &c."

According to Dr. B. the effect of inflammation, as is evident from its proximate cause, (relaxation of capillaries,) is to soften the tissue in which it takes place. An inflamed part may feel hard on account of tension, but when cut into, the inflamed tissue will be found softened.

The diminished secretion consequent upon inflammation, the author explains by the enlarged capillaries allowing a more free passage to the blood

onwards into the veins, than through the pores in the sides of the vessels into the ramifications of the excretory tubes; the capillaries at the same time being unfitted for secretion, in consequence of the morbid alteration of their physical condition, and yet, more particularly, through the alteration of their dynamic (galvanic or electrical) condition, consequent upon the alteration of the supply of nervous energy to the part, the original cause of all disturbance.

"In some cases of disease, when the secretions of the skin and kidneys are deficient, we renew them by bleeding, digitalis, antimony, &c., which lower the force of the pulse, thereby diminishing the distension of the capillaries. On the other hand, in health, stimulants, such as punch, by increasing the nervous energy in the kidneys, &c., and quickening the circulation, at the same time increases secretion—whereas the same stimulus could not increase secretion by quickening the circulation when the capillaries are in a state of debility and morbid congestion—and a still further proof that they are in a state of morbid enlargement, is the effect of cold applied to the loins in such cases, in renewing the secretion, and the effect of cold water, even cool air, in promoting the secretion of insensible perspiration, and thereby softening the skin, in scarlatina. Increased secretion takes place sometimes with a weak pulse. It will be found that this occurs in cases where, although the circulation is weak, the capillaries are not deficient in nervous energy, as in hysteria, in the sweating of hectic, &c."

In the mucous membrane lining the different canals, the effects produced by a minor degree of inflammation is, by the relaxation of the exhalent capillaries, to produce a more rapid extrication of the fluid part of the blood; hence the saline serous fluid poured out in the slighter forms of catarrh or the increased flow of a mucous or serous fluid in diarrhœas. If the inflammation increases, the mucous surfaces become dry from a diminution or suspension of their secretions—but as the inflammation subsides, the vessels recontracting, secrete again a mild scanty mucus.

The proposition, that "inflammation is the means by which local injuries are repaired, and hence may be considered as the restorative principle," Dr. B. denies in toto. He contends that it is invariably a morbid condition—that the term adhesive inflammation is an entire misnomer, inflammation invariably impeding the adhesion of cut surfaces or the granulation and cicatrization of an ulcerated surface.

Morbid sensibility of a part does not, according to the author, occur during the reparatory process. There may, he admits, be a considerable degree of pain in those cases in which the healthy nerves are exposed and injured. But there will be more disturbance and loss of sleep, with perhaps less pain, if, from the nerves themselves becoming inflamed, (he has no other term to express their lesion,) morbid sensibility arises, either locally, or in the nervous centres, in consequence of the lesion of the nerve being communicated to them, whether the lesion be in the sensitive or organic filaments; in the latter case, there can be no evidence of morbid sensibility until the lesion is propagated to the nervous centre.

The term inflammation, Dr. B. restricts exclusively to the phenomena which exist previously to the deposition or effusion of coagulated lymph or the natural process by which the reparation of the injury inflicted on the part by the inflammation is effected.

"I may be asked," the author remarks, "how it happens, if the

throwing out of lymph be not a part of inflammation, that it occurs as one of the phenomena of erysipelas, and also upon inflammation of the cornea or iris, when instead of deserving to be named a part of the reparatory process, it obstructs their functions. In erysipelas sufficiently severe to cause lymph to be effused, the desquamation is evidence of solution of continuity of the capillaries, hence the necessity for the reparatory process, viz. the effusion of lymph. We may fairly deduce, by analogy, that there is likewise solution of continuity of the capillaries in the cellular substance beneath. The moment this solution of continuity of capillaries—the giving way from the degree of inflammation, takes place, lymph is effused, and its use is evident, viz. to reunite the breach as even in cases of reparation of an incised wound. When the cornea is wounded, we see that the effusion takes place, to reunite the capillaries; in like manner, when the capillaries give way from inflammation of its substance, without breach of surface, lymph is effused for the reparation of damage. Had the inflammation been superficial, the giving way of the capillaries would have been evinced by ulceration."

Upon this distinction between the inflammation and reparatory process, Dr. B. explains the important practical precepts; the impropriety, namely, of continuing to bleed and to employ other antiphlogistic remedies after the first has entirely subsided—and the importance to be derived from opiates administered at this stage to subdue the morbid sensibility which often remains after the inflammation, and to support the system during the restorative process under a great injury.

"This use of opium," he remarks, "has been pointed out empirically by the best authorities, as they say, in peritonitis and pleuritis—but it is evident that it is after peritonitis (the inflammation,) or whilst it is subsiding, and during the reparatory process—and on any relapse of the inflammation evinced by the skin becoming hot and dry, the opium must be combined with renewed antiphlogistic remedies. In the cases alluded to, the opium is given immediately after free bleeding; the bleeding checks the inflammation, and the opium removes the morbid sensibility. The case must be closely watched for febrile symptoms, lest the anodyne by allaying pain, deceive the practitioner (of which there is great danger in inexperienced hands), and the inflammation re-light, as it will unless antiphlogistic medicines, such as antimony, digitalis, neutral salts, &c., be administered to keep it in check, in graduated doses, but by no means freely, though that was necessary at first.

"On the other hand, in many protracted cases of disease, when the patient feels scarcely ill enough to apply for medical advice, we find some latent inflammation, requiring active and decided antiphlogistic treatment, which may surprise the patient, but of which he soon feels the benefit."

When the congestion or inflammation existing in a part subsides without solution of continuity, or leaving any trace behind, it is called resolution.

The following extracts will explain the author's views in relation to the formation of ulcers, abscesses, and the phenomena connected with them.

"If by a blo or other injury, as by caustic, or by any inflammation, the *life of a portion be destroyed*, it gradually decomposes, and separates from the living part—sometimes in the form of a discoloured slough, the fluid parts running off when the slough is on the surface. The *separation* is effected by *decomposition*, and not by the absorbents of the living part removing a portion of the dead parts, as has been asserted: the part at the line of separation, of a slough of the skin, for instance, de-

composes most rapidly, from the heat and moisture of the surrounding living part; whereas the centre of the slough often dries up, like a piece of leather. After the separation of a slough on the surface of the body, an open wound is left, which, if the reparatory process go on naturally, will be filled up by granulation."

"*Ulceration* is the death of successive layers or minute portions of an open wound, of whatever dimensions; the solution of continuity having been affected either by spontaneous inflammation and decomposition, or by external injury—and the matter which successively dies in an ulcer is not separated from the living part, nor taken away by the absorbents, as has been generally asserted, but decomposes and runs off. Again, an ulcer is not necessarily in a state of inflammation; for, on the contrary, whilst healing, it is in a state of reparation; and any renewal of inflammation causes enlargement—fresh ulceration."

"When any injury, from a blow or inflammation is sufficient to cause death of a portion deeper seated below the skin, it is possible that the decomposed matter may be carried off by the absorbents, as we see in the case of an ecchymosis of extravasated blood—but in general, the reparatory process causing the secretion of pus, suppuration (an *abscess*), takes place. Here again I must advert to the incorrectness of language ordinarily used: it is said that, when inflammation exists, it is of consequence to prevent suppuration. Now, what is to be prevented is, the death of any portion—if that take place, the suppuration is merely a matter of course, as a part of the reparatory process."

The cavity of the abscess is, Dr. B. remarks, lined with coagulable lymph, analogous to the granulations and false membranes and adhesions, in other cases of inflammation. The *cyst* of the abscess thus lined is merely the cellular tissue of the part stretched upon the contained pus, and does not, according to the author, set bounds to the abscess, but passively depends upon the quantity effused into it. It is the extent of the inflammation which decides the extent of the abscess; and where the inflammation is diffused or ramifies, we have diffused or ramified abscess, as from diffused cellular inflammation.

The foregoing remarks refer chiefly to what is called *acute* inflammation, in which either resolution or destruction of parts takes place. *Chronic* inflammation, according to the pathological views of the author, is that in which the cause of the inflammation remains, producing reiterated lesion, followed by continual efforts of the reparatory process, in depositing coagulated lymph, which—

"Sometimes becomes organized and produces actual hardness, as in strumous and other tumours, syphilitic nodes and warts, chronic hepatitis, &c. Sometimes a persisting open ulcer, as a chancre, in which the reparatory process goes on, and by depositing lymph thickens the edges, whilst the continued inflammation keeps the ulcer open by the successive death of minute portions; or, if it be not strong enough to produce death of portions, so as to keep the part in a state of open ulcer, it still renews enough of inflammation to prevent healing—that is, the organization of the cicatrix, which therefore becomes a scab; sometimes single, constituting a scale, as in the coppery eruption; sometimes in successive layers, as in rupia; sometimes in clusters after pustules, as on the face. It is thus that a morbid poison not only inflicts the injury, but, by adhering in the tissue or constitution, perpetuates it till expelled by some remedy."

Dr. B. very properly remarks, that no essential difference exists between

phlegmonous and erysipelatous inflammation—it being the same inflammation in both cases—the only difference being in degree or situation, and dependent upon the state of the constitution. If there be no death of part, there will be no slough; no necessity for the suppuration; but merely desquamation of cuticle or even resolution. The stages, from a slight erysipelatous blush to the most violent inflammation and sudden mortification, are not differences but degrees—exactly analogous to the action of fire, from a slight scorch to the actual cauterizing which causes the death of the part instantly. The two things which produce the source of the phenomena, are, according to the author, the injury and the constitution—great injury with little debility of constitution inducing the same result as less injury with greater debility.

The remarks of the author on the pathological peculiarities of the infectious, contagious, and what have been termed constitutional diseases, are ingenious, though not altogether original.

Tumours, according to Dr. B., are the result of accidental injuries, as blows, &c., or of disease. In both cases coagulable lymph is effused in the cellular tissue, and by a process analogous to granulation, becoming vascular and organized, cannot be removed by the absorbents, which only take up unorganized or dead matter. Some of these tumours remain unaltered, others by their presence keep up an inflammation, in consequence of which the capillaries go on depositing more and more by necessarily reiterated reparatory effects, and so add to the tumour which is thereby increased in size, until it is removed by remedies or operation or exhausts the animal and destroys life. Tumours sometimes disappear spontaneously, that is, by a cessation of the inflammation which produced them, and their subsequent re-absorption—sometimes they suppurate, forming abscesses; sometimes remain indolent; at others, remain and grow larger, or grow larger and ulcerate at the same time, as in cancerous and other malignant diseases.

"Tumours are modified by the part they occupy and the constitution of the person—if the substance injured be fat, the arteries there being depositors of fat, make a fatty tumour—if it be periosteum, bony—if a highly vascular part, a vascular tumour. The tough bands which traverse fatty and other tumours are made by arteries, which in a healthy state would have to support membranous, cellular, or ligamentous tissues. A tumour of a lymphatic gland, or other part, in that debilitated, relaxed constitution called strumous, or scrofulous, will become so: and in a constitution tainted by cancerous disease, cancerous tumours will form in any and every part, as has been ably demonstrated by Kiernan. The same may be said of tubercular disease, which is totally distinct from common inflammation.

"If the absorbents cannot take up matter which is organized, it may be asked how they get away tumours? The organization of a tumour is but imperfect, and it is a burden on the previously existing arteries, in addition to their originally allotted task: if these arteries have been enlarged in size (for we know arteries can grow larger,) in consequence of the inflammation which gave rise to the tumour, they will go on to support it, but if they have only been dilated, they will, when the inflammation subsides, resume their natural size, and starve the tumour, the constituents of which will, when thus deprived of support, become decomposed, unorganized, and thus amenable to the absorbents: on the other hand, the tumour may have been too well organized to give way, and so continue an indolent life, after all inflammation has subsided, but producing neither

pain nor inconvenience, unless a blow or other cause renew inflammation. Now, if the efforts of nature do not remove the tumour, we have remedial means of diminishing it."

These means consist of such as prevent nourishment from entering its vessels, or diminish the amount of blood in them, or cause them to contract, and which cause the removal of the morbid growth by starving it.

From the foregoing the reader will be enabled to form a tolerably accurate idea of the leading outlines of Dr. B's views in regard to the pathology of inflammation. In strict conformity with those views, he attempts to explain the modus operandi of the various remedies which experience has proved to be the most successful for the removal of inflammation.

He maintains that the only way in which inflammation of a part can be diminished, is by increasing the action of the arteries involved in the disease, by cold or astringents, which cause the arteries to contract; that is, increase their action.

"When the eye, or any other part, is injured by heat, or a stream of cold air, a blow, or cantharides plaster applied to the skin, &c., the part becomes redder from the vessels enlarging and admitting a greater proportion of blood than there was before. Now, in this first and simplest instance of inflammation, the heart does not act more strongly than ordinary, not affecting the pulse, so that the capillary arteries evince debility, having given way when there is no more force than they bore before without distension; from this they sometimes recover of themselves, gradually contracting to their natural size; or if not, the simple application of cold, or an astringent lotion, makes them contract, and the redness disappears."

"The more the heart acts the more of course it forces the arteries of the inflamed part; and the pulse, showing the power of action of the heart, is erroneously by some considered as an evidence of arterial action; the throbbing of the carotid arteries for instance. As the heart, therefore, acts against the capillaries, if we cannot cause them to contract strongly enough to resist its force, we are obliged to diminish the force of the circulation, either by taking away blood, which decreases both the quantity of blood sent to the arteries and the action of the heart itself; and in this way we leave less for the arteries of the inflamed part to do; or we can lower the force of the heart by medicines, such as digitalis, &c. Here, for illustration, the simplest cases of inflammation have been taken, in which the heart is acting naturally, the inflammation being from injury."

When the minute arteries have suffered so much that they cannot recover of themselves, nor by the aid of mere local application, in addition to the local disease symptoms of constitutional disturbance arise, as restlessness, or a general sense of uneasiness, and increased action of the heart; showing that the nervous system is partaking of the morbid sensibility of the nerves of the inflamed part, and that the heart is becoming more excited by its ordinary stimulus, from its nerves being more susceptible. The increased force in the injecting action of the heart tending to keep up and aggravate the disease, it is necessary to diminish its action, and guard against removal. This may be done by venesection or by leeches; by means of which we lower the pulse at the same time that we relieve local fulness. All those things are now to be avoided that will have a tendency to raise it again, as exercise and generous diet. In addition to low diet and rest, we may assist in lowering the pulse by sedatives and by emetics and purgatives.

A variety of remedies, such as nitrate of silver, tartar emetic, acetate of

lead, corrosive sublimate, &c., and some acrid vegetables, as mezereon, &c., that have been found successful in certain cases of inflammation, either applied externally or administered internally, are, according to Dr. B., to be viewed as astringents in their action upon the capillaries; each of them, nevertheless, when too strong or used in too large doses, produces a contrary effect, viz. inflammation and relaxation. Whether externally applied or taken internally, the foregoing remedies are, it is maintained, absorbed and carried into the circulation, and in this way applied directly to the capillaries of the inflamed parts.

"We know, too," he adds, "they are adapted to different cases. Antimony, which produces sickness and lowers the pulse, besides its local effect on the capillaries, when it reaches them through the circulation, is suited to, and resorted to in, acute diseases, such as inflammatory fevers, whether idiopathic or from injuries. If administered so as not to produce sickness or nausea, or if there is a low state of fever, not requiring reduction of the pulse, the antimony may be given in small repeated doses, so as to circulate to the capillaries, without depressing the system. Mercury, which has not this nauseating property, acts less on the pulse than antimony, but perhaps even more upon the capillaries, when circulated to them; hence it is oftener used in chronic cases, both syphilitic and others, besides being much employed in acute inflammation, pleurisy, peripneumonia, peritonitis, &c."

To the objection, that the inflammation of the gums and fauces, produced by mercury, is a contradiction of the above explanation of its action upon the capillaries, the author very ingeniously replies.—

"Mercury *stops* inflammation by the same means in one case as it *produces* it in another—it contracts the capillaries; so that a healthy part is inflamed and even ulcerated by what contracts its nutrient capillaries *from a natural state;* an unhealthy ulcer is stopped by what contracts its relaxed capillaries *to* a natural state. *Contraction* of the vessels, however, does not express the *immediate* cause of the sponginess of the gums; there is, in fact, inflammation, *relaxation*, which is the secondary result of the contraction; the excessive contraction occasioning the loss of contractility, that is, over-actions causing, at last, a loss of power: as cold, which at first contracts, will at last destroy the power of the capillaries, so that relaxation, amounting to inflammation (chilblain) takes place. The soreness of the mouth in ptyalism is analogous to chilblain; the cold air, saliva, &c., acting upon a membrane whose vessels are in a state of extra contractility; moderate cold, with extra contractility, producing the effect of intense cold with ordinary contractility. It is thus that we have, in the *rationale* of medical phenomena, to refer constantly to the variation of the proportions of the components of a sum; *i. e.* the two things which contribute to a phenomenon. In the foregoing statement, the extra contractility depends upon extra sensibility of the nervous part of the apparatus—the organic sensibility of Bichât—which is diminished, if not lost, when inflammation takes place, and the augmentation of which is a means of remedying inflammation, as a cold lotion may relieve a chilblain, which is inflammation produced by cold, and as cool air relieves ptyalism."

The purgative and emetic remedies so frequently resorted to in the treatment of inflammatory diseases, such as salts, senna, jalap, tartar emetic, calomel, ipecacuanha, &c., are, according to our author, sedative in their operation. As a general sedative remedy, tartar emetic, so far from acting as an emetic, will allay sickness, we are told; for example, inflammation

of the mucous membrane of the intestines is accompanied with nausea and sickness, and inflammation of the lungs produces cough: both these inflammations may be checked, even without bleeding, sometimes by frequently repeated small doses of tartar emetic, which are by some called febrifuge; and thus Dr. B. remarks "tartar emetic stops vomiting or cough."

"Blisters act upon the same principle as heat, electricity, sinapisms, capsicum, croton oil, acupuncture, &c. They all appear to produce an increased influx of nervous influence to the part, whereby the capillaries in the neighbourhood acquire an additional power of contracting, so as to resist inflammation and inflammatory effusion."

To understand the varieties of inflammation, we are to recollect, according to our author, that the heart is acting against the arteries, and that both heart and arteries derive their power from the nerves. Thus, inflammation, with a very weak pulse, the heart acting even more feebly than natural, as we see in broken down constitutions, where the capillaries being even weaker in proportion, give way, and the inflammation is to be cured by stimulants which raise the pulse, but which, at the same time, by improving the appetite and digestion, nourish and increase the energy of the nervous system, so as to enable it to communicate to the capillaries a tone or power to resume their healthy action, more than equivalent to the increased action of the heart.

"In some cases, by good food and *tonics*, such as bark, without stimulants, we communicate an energy to the nervous system, which restores the healthy action of the capillary arteries; and it is the discrimination of cases where stimulants are admissible with tonics, or where tonics should be accompanied by evacuants, that constitutes skill in conducting the constitutional treatment of many diseases. Thus by a reference to the relative state of action of the heart and arteries, bearing in mind their dependence upon the nervous system, we can understand how tonics are useful in many instances, by communicating power to the capillary arteries, through the nerves, where stimulants would be injurious from their increasing the heart's action. Tonics are likewise beneficial in conjunction with abstraction of blood and evacuant remedies, in keeping up the energy of the nervous system, so as to restore the proper action of the capillaries."

It is our object to present to our readers a very general outline merely of the leading pathological and therapeutical views of Dr. B. To enter into details connected with them, or to attempt a critical examination of them, would extend the present article to an unreasonable length. Many of the subjects touched upon in the work before us, which is more replete with important matter than many a volume of more imposing dimensions, we are obliged to pass over without notice; among these are the very ingenious and interesting remarks of the author on that morbid state of the nerves, whether partial or general, to which the term "irritation" has been usually applied, but for which he has adopted the appellation, morbid sensibility; and by which he explains the occurrence of morbid sympathies; as well as his practical observations on the four classes, stimulants, sedatives, narcotics and tonics, into which he has arranged all the ordinary remedial agents. In his remarks on each of these classes of remedies will be found, combined with not a little plausible hypothesis, many useful hints, calculated, we conceive, to lead to a more rational and successful application of them for the removal of the several diseased conditions of the system, than the usually received therapeutical precepts.

We shall proceed now to present a brief sketch of the author's views in regard to that much disputed subject, the pathology of fever.

When a local inflammation, in whatever organ seated, is either too great to yield to the remedies applied, or when it has been neglected, it keeps up and extends the morbid sensibility of the nervous system; so that in addition to the increase of pulse, we have other evidences of disturbance in the functions of the nervous system, such as pains of the head, back, and limbs, with lassitude or sense of debility, shewing that the nerves of sensation and voluntary action are affected; alteration of temper; hurry of thought, not amounting to delirium, but sufficient to indicate disturbance of the functions of the brain; loss of sleep; false perceptions; chilliness; morbidly increased heat of the surface with dryness, shewing want of tone from deficient nervous energy. The digestive system is now also deranged, the sympathetic nerves partaking of the morbid sensibility, as well as the cerebral and spinal nerves, and of course the organs supplied by them; there is loss of appetite, and imperfect secretions in the primæ viæ, causing thirst, frequent nausea, and deranged function of the intestines—constipation or diarrhœa. The kidneys also evince a loss of power; their secretion becomes dark, reddish, and scanty.

The combination of symptoms above enumerated, constitutes what the author terms the *constitutional disturbance*, or *sympathetic* fever, from local inflammation. This symptomatic inflammatory fever might, he conceives, be called *symptomatic synocha.*

"It is the same assemblage of symptoms," he remarks, "which forms Cullen's definition of the *idiopathic* disease, synocha, viz: heat much increased, pulse frequent and hard, urine red, the sensorial functions but little disturbed, and the power of voluntary motion diminished. The idiopathic synocha sets in, in Cullen's words, without primary (or preceding) local disease; that is to say, the symptoms of lesion of the nervous system are not preceded by any hurt, or local inflammation, or pain, external or internal; but the lesion of the nervous system in idiopathic fever is, in fact, the local disease. It is, in my opinion, the nervous system itself, which, being injured, produces synocha, or *idiopathic* inflammatory fever."

The treatment in both the idiopathic and symptomatic synocha is, Dr. B. remarks, the same; bleeding general and local, low diet and rest; attention to the bowels; sedative antimonial, or other emetic or diaphoretic medicines; and the use of local applications, poultices, lotions, fomentation blisters, &c. Even in idiopathic synocha, local applications will be beneficial as cold lotions, with leeches and blisters, &c., to the head, to relieve the inflamed brain or meninges. Sponging the skin with water, either warm or cold, also produces, the author observes, a sedative impression on a large proportion of the nervous system.

The foregoing state of fever having existed for some time, according to Dr. B., the power of the nervous system becomes exhausted by morbid sensibility, want of nutrition, &c.; and the heart, though still under the influence of sympathetic morbid sensibility, deriving less energy from the enfeebled nervous system, and at the same time being less nourished, has less power to contract, and really becomes weaker; and the pulse, though still hard, is rendered weaker also. From the same causes, the brain sometimes from passing into inflammation, or at least congestion, has its functions more impaired, and the thoughts become more confused, until actual stupor, or delirium succeeds, and the pulse, losing its hardness, becomes soft and weak.

"The heart being now unable to empty itself, congestion in the lungs is produced, augmented by their capillaries being also deficient in power; the blood, therefore, not being purified, causes still greater stupor, and the patient is said to be in a state of *typhoid* (stupid) or low fever; instances of which may be seen in local inflammation from disease or injury, as when there is inflammation in the chest or abdomen, or after wounds or operations, where the sympathetic fever becomes typhous (typhoid). But if the brain does not become inflamed or congested, the patient may die from mere exhaustion, with all the senses perfect, as in *hectic* fever. Or we may see a patient with symptomatic fever, typhous (typhoid), without having had any previous strength of pulse, and with a cool skin, as from local injury; when, for instance, with the injury, the nervous system has received a shock, as in the case of a severe accident, or of an operation. Thus, we may trace the progress from smaller injuries, and their consequences to greater: a slight inflammation with morbid sensibility, as a single inflamed hæmorrhoid, produces shivering and heat of the skin, *feverishness, pyrexia;* the spreading of this inflammation to a greater portion of the intestine producing symptomatic inflammatory *fever;* and a still further extension of the mischief, general inflammation of the bowels, will bring on *typhous* fever, with oppression of the sensorium. Now, by a similar series of events, the *synocha*, or *idiopathic* inflammatory fever, may also become typhous, which is Cullen's synochus, a fever 'beginning with synocha, and ending with typhus.'"

Idiopathic typhus without any previous synocha, and with the temperature from the beginning, even below the natural standard, occurs, according to our author, when the brain and nervous system are poisoned by contagion, or by concentrated foul human effluvia, as in gaols, transport or slave ships, &c., either with or without predisposing circumstances of over fatigue of body or mind.

Dr. B. proposes the query, whether typhus and typhous fever consists in an inflammation of the substance, and synocha of the investing membranes of the nervous system, analogous to the difference between inflammation of the substance and membranes of the lungs, liver, bowels, &c. Inflammation of the substance more completely interrupting the functions of an organ, that of the membranes producing disturbance of action and pain. In typhus, he remarks, we see, the functions of the nervous system, thought, volition, sensation, &c., especially interrupted.

As in the treatment of synocha, so in that of typhus fever, attention, we are told, must be paid to the local disease. In idiopathic typhus, especially, lotions to the head to constringe and give tone to the vessels of the brain, and leeches to relieve the congestion, are the essential local applications, and the most unequivocal remedies in our power. Besides local applications, due attention must be paid to the alvine and renal secretions; but the most important question is, the author remarks, as to the administration of stimulants, or sedatives and depletives; and it is only by careful observation of actual disease at the bedside that we can arrive at the knowledge necessary to guide us in this respect.

"Experience, says Dr. B., proves that cold to the head, with moderate saline and other sedative medicine, will cure typhus, or prevent the typhous state from occurring in synocha; whereas when wine, with or without opiates, is employed, the disease frequently proves fatal."

"We may understand the risk of stimulating a typhous patient by sup-

posing, that when an important organ, such as the lungs or brain, is inflamed, or even congested, the weak pulse of the typhous state of collapse, during peripneumonia or typhus, may be one of the provisions of nature to allow the parts to recover, as they would during the collapse of syncope produced by bleeding; and, of course, when so important an organ as the brain itself is diseased, we should be careful how we set the heart pumping more forcibly than necessary. Let us, however, not go into the opposite extreme, and allow the patient to die for want of a spoonful, or even a bottle, of wine or brandy, (for the quantity must be relative, depending on the effect,) if there be real danger of sinking; and when the rallying point is gained, caution is necessary not to push them too far. There is languor and lassitude in all fevers, but the symptoms of sinking, requiring stimulants, are, fluttering, weak, soft pulse; cold sweat; lying on the back; respiration oppressed; involuntary dejections. Wine, on the other hand, will not agree whilst the pulse is hard or sharp, and the skin decidedly dry, even when there is subsultus tendinum and prostration. Ammonia should be tried before resorting to wine."

The whole of the remarks of our author in reference to the treatment of typhus fever are in the highest degree judicious, and correspond with the results of our own experience; we have room, however, for only the following extract in reference to this subject:—

"The state of low or typhus fever being in reality debility, it is difficult for the beginner to satisfy himself of the necessity, or even the safety, of using depleting sedative remedies: nevertheless, all who have experience (except the Brunonians) allow its expediency, in whatever way they may explain it; and it is necessary to be as well assured as possible on this point. The student can more readily be convinced of the necessity for depletion in a state of complete prostration, produced by inflammation of the lungs, or other organs, because he can understand the cause of that state to be, that the capillaries of the organ are over-loaded, and that by lightening them their power of action may be restored. But the low fever being thought to have no fixed habitation, and being considered as a something pervading the system, the rationale of treatment is found not so evident. Fever pervades the frame, it is true, because the nervous system, which is its seat, pervades it. The phenomena of idiopathic fever, show that the nervous system is first implicated—debilitated by a morbid poison from the first: hence the necessity for unloading the debilitated congested capillaries of the nervous centres by sedative treatment. In addition to this, as post-mortem examinations prove, that there is uniformly some visceral inflammation in typhus, the expediency of an antiphlogistic treatment becomes more obvious."

In relation to the gastro-enteritic doctrine of fever, Dr. B. makes the following remarks:—

"The functions of the primæ viæ are so uniformly disturbed in fever, whether symptomatic or idiopathic, that it is not surprising that Broussais, an accurate observer, should have fixed upon the mucous membrane of the stomach and bowels, as the seat of the immediate cause of idiopathic fever; but I think I have shown, that fever is lesion of the nervous system—if commencing there, idiopathic; if induced there by inflammation of other organs, symptomatic. Some inflammations of the viscera arise during fever, and are very truly said to be produced by the fever; that is, the organ having been *predisposed*, when it is robbed of its due supply of nervous

energy, by the derangement of the functions of the nervous centres, its vessels fall into the congested or inflammatory state; and when the cerebral symptoms diminish, if not before, it is observed that some organ is affected. This is the case, most frequently, with the mucous membranes of the intestines and lungs in temperate climates, and with the intestines and liver in hot climates; so that it is a doubt with many whether the fever has brought on the hepatitis, or the hepatitis the fever; or whether the inflammation of the mucous membrane, brings on the fever, or the fever the inflammation of the mucous membrane, as in acute dysentery. Sometimes the disease in the first instance is the fever, but even then the brain has been rendered more susceptible of the exciting causes of fever, by the previously debilitated state of the organs—the liver, the bowels, or the brain itself; and the moment the fever begins, the organ has its congested or inflammatory state increased, and so rendered evident, though it was latent previously."

The congestion of the organs during the febrile state explains, according to the author, the obstinacy of some agues. The cause which prevents the cure of the ague is visceral disease, either existing previous to the ague, or occurring during its continuance. The ague and visceral disease act reciprocally as cause and effect—the first aggravates the latter by causing congestion at each fit, and the visceral disease by keeping up morbid sensibility during the intermissions, preventing the nervous system from being cured by bark; but as soon as by bleeding, leeching, mercury, &c., the visceral disease is cured, the bark arrests the ague.

"Considering disease, then, as depending on the conjoint affections of vessels and nerves, and knowing what agents will influence their actions, we may, says Dr. B., in our practice, always have a reason for the application of remedies, and be able to combat such cases as we have not before seen or heard of. Acute diseases are those in which the feverish or other constitutional symptoms are the most urgent, so as to threaten life. Chronic diseases prove fatal only when the gradual alteration of some organ undermines the constitution by interrupting some of the nutrient processes—as in decline, from disease of the mucous membrane of the intestines, or from slow disorganization of the lungs, liver, &c."

Dr. B. denies that there is any specific typhus fever, but on the contrary maintains that there is but *one* simple fever; and which is exanthematous, petechial—that it is continued, synochous (synocha, συνέχω), whether with high or low pulse, high or low temperature—and that, when the sensorium is oppressed in addition, it is typhous (typhus).

We had intended to present a short analysis of the author's pathology of the remaining class of diseases the neuroses, which according to him consist of derangement of the nervous system, characterized by pain and a tendency to spasmodic, convulsive, involuntary motion. But we find it would be impossible to do this in a satisfactory manner without greatly extending our notice of the work; we shall merely, therefore, offer to our readers the following extract, in which they will find, in the author's own words, a general summary of his pathological views of inflammation, fever, and the nervous affections properly speaking.

"There will have been observed nothing of humoralism in the preceding pages—for though I admit the influence of imperfectly assimilated nourishment, and its consequent deterioration of the blood chemically, producing gravel or scurvy, &c., I ascribe the effects, whether remedial or noxious, of agents, mineral, vegetable, or animal, taken into the circulation, to their producing changes of the solids. *All diseases*, in fact, com-

mence by disturbance of the function of the solid parts of the machine—and first of all, of the nervous system. This is solidism, or neuro-pathology. The nervous system, it is superfluous to repeat, regulates and supplies all with energy. There is no organic sensibility, or organic contractility, independent of the nerves. Every natural impression is received by the nerves; every morbid agent is first felt by, and operates upon the nerves. *Inflammation* of cellular tissue, bone, conjunctiva, &c. through mechanical or other violence, result in consequence of injury to the peripheral nerves and to the capillaries—*fever* from injury to the centres of the nervous system, which arises either from peripheral injury propagated to them, or through lesion by miasma, which, by the route of the circulation, directly poisons them; most probably by chemical combination and alteration—instantaneously lowering their power or energy. I have shown that the immediate effect of the lowering of the power and energy of the nerves, or the nervous system, is inflammation, or congestion of the capillaries, the first degree of inflammation. The diseases of morbid sensibility (*neuroses*) depend also either upon a partial or general derangement of the nervous system—arising, when general, either from the disordered state being propagated to the central organs from a distant region of the body, from a wound, in *traumatic tetanus*—a poison, in *hydrophobia*—from the uterus, in *hysteria*, &c.; or originating there through the gradual operation of a debilitating cause, as *delirium tremens*, *paralysis agitans*, *idiopathic tetanus*, *chorea*, &c.; or when general morbid sensibility is suddenly produced by loss of blood or fright;—so that neuroses, as well as fever, may be produced suddenly or gradually, and like it, may be either idiopathic or symptomatic. Fever essentially depends upon a diminution of the power of the nervous system—the nervous influence whatever that be, is deficient—whereas the diseases of morbid sensibility appear to arise, not from a want of sensitive and motor-nervous energy, but from a derangement of the machinery of the nervous centre. or a disturbance of that connection of the nervous centres with the nerves, which not only induces, but regulates action. Thus, neither in tetanus nor hysteria, is there deficiency of power either in the nerves or muscles—as the morbidly increased sensibility, and the powerful spasms and convulsions show—but a derangement in the direction of it. In fever there is a want of steam, or moving power, to use a mechanical illustration; in the neuroses the machinery is out of order: for instance, when fever is fully established, sensibilities of every kind are blunted, both what are called animal and the organic; and there is debility also of the voluntary and involuntary muscular systems. In the diseases of morbid sensibility, epilepsy, tetanus, neuralgia, hysteria, chorea, hydrophobia, &c., either all the sensibilities, animal and vegetative, are rendered morbidly acute, or the motor energy is distributed to the muscles irregularly—if not too abundantly, as we see in chorea and paralysis agitans, volition would guide the hand to the mouth, but in consequence of the deranged nervous centre, the hand is thrown in other directions in spite of the will, from the antagonist muscles not being under its direction. Or the derangement of the functions of the perceptions and volition, incidence and reflexion, is simultaneous, as in hydrophobia, and some cases of hysteria. In fever there is abundant evidence of lesion of the cineritious tissue, interfering with its function, the generation of nervous energy; in morbid sensibility we have only an evidence of deranged actions in the distribution of it in the medullary white tissue. In morbid sensibility we do not find the faculties of

the sensorium interfered with, unless when, in the advanced stages, a degree of fever coming on, induces the delirium or coma of congestion—or, on the other hand, inanition produces delirium, as in hæmorrhage, delirium tremens," &c.

The remainder of Dr. Billing's treatise is devoted to a very brief consideration of the pathology and treatment of ague, cholera and influenza; erysipelas and rheumatism, phthisis, catarrhs, dropsy, hemorrhages, and chronic cutaneous eruptions. The very concise manner in which each of these affections is treated of, may be inferred from the small space devoted to them—seventy pages, printed in a large type.

Ague, according to the author, is essentially fever; forming, however, a connecting link between fevers and neuroses, as a considerable degree of morbid sensibility exists in it; and being closely allied to Asiatic cholera and influenza, which Dr. B. likewise considers to be essentially febrile diseases.

According to our author, in the first stage of all fevers, the chill is the effect of the debilitating influence exerted on the nervous centres—the mind being at this time clear though languid; the pulse small, the skin cold, and the limbs tremulous or convulsed, from the morbid sensibility of the nervous centres, evinced also by pain in the head and spine. From the weakness of the circulation, all the external capillaries contract, and the blood is consequently congested in the internal parts of the trunk, producing nausea, and other disturbance of the primæ viæ, augmented "by the morbid sensibility of the sedatived nervous centres, sometimes causing vomiting and diarrhœa." This stage of depression may last for minutes, hours, days, or weeks, as evinced in the ephemeral, continued fever, regular agues, and those irregular agues vulgarly called dead ague.

The next stage of fever, the hot, or as Dr. B. prefers calling it, the relaxed, arises from the relaxation of the nervous centres, consequent upon their previous sedation. Upon the extent to which this relaxation occurs, will depend whether the fever will be hot or not; if the relaxation be so great as to suspend the secretion of nervous influence, as in typhus, the circulation and respiration will not have power to produce a full pulse and hot skin; when the degree of relaxation is less, the skin will be hot and flushed, as in continued fever and in ague. But in either case the skin will be reinjected; for even in typhus fever, though the heart be weak, the superficial capillaries, having lost their tone from deficiency of nervous influence, relax, and are refilled, even by the weak heart, with a dusky blood. And a similar state may be seen in some agues where, after the chills, there is a typhous state, and a livid colour of skin, with dreadful languor. Thus, even in ague, remarks Dr. B., the student must not expect to find always the *hot* stage of the nosologists.

These constitute, according to our author, the only two stages of fever and ague. There is no third stage; the sweat which succeeds the hot stage is, he observes, only an indication of renewed secretion by the capillaries, which, after having lost their tone, and been consequently in a relaxed, distended, non-secreting state, renew their secretion on being restored to a normal condition; and of course, as they are returning from a relaxed state, they will pour out fluid sweat at first, until recontracted sufficiently to secrete insensible perspiration only.

Ague, we are told, frequently degenerates into continued fever, which, when of the simple continued kind, synochous, with hot skin, is called a remittent; when of a typhous character, it assumes the form of dumb ague.

Ague constitutes the link, Dr. B. remarks, between fevers and neuroses. In regular ague, constitutional morbid sensibility is prominent. There exists, it is true, a great degree of congestion of the nervous system, as well as of the viscera, during the paroxysm; but rarely, we are told, is real fever produced. There is the pyrexia equivalent to what occurs in hysteria, but seldom actual fever; not that loss of power in the capillaries of the nervous system, which prevents the generation of nervous influence; for in ague, stimulants, unlike the effect they have in ordinary fever, do not produce the coma of plethora—the nervous centres being little injured, though debilitated, are relieved by the stimulant narcotic tincture of opium; and consequently fresh energy is communicated to the capillaries, even in the hot stage, by which they resist the heart's injective force.

Dr. B. holds, that a relaxation of the capillaries is sufficient to explain the production of dropsy, and he denies that it ever arises from a diminished action of the absorbents. Dropsy, he remarks, most generally results from a state of debility of the nervous system, and consequently of the capillaries, induced by disease of some organ, and increased, as in organic discharge of the heart, liver, lungs, &c., by mechanical obstruction of the circulation.

Dropsy, Dr. B. conceives, may be caused by any protracted disease, which, by morbid sensibility or slow fever, robs the secretory organs of their nervous energy, as the kidneys, skin, and intestines, but particularly the kidneys and skin. These ceasing to secrete, the redundant fluid oozes from the capillaries, which are not merely overloaded, but weakened, in consequence of the deteriorated state of the nervous system; and unless, the author remarks, we can restore energy to the nervous system, so as to check exudation, by giving tone to the capillaries, we in vain resort to tapping, or diuretics, or cathartics, such as elatereum, to evacuate the dropsical fluid, as it will speedily reaccumulate. Thus, he adds, dropsy is not to be treated as an isolated or single disease, except where for a time, to prevent a patient from being overwhelmed by the fluid in the cavities, we turn our whole attention to getting rid of it, either by tapping or by inducing profuse serous evacuation from the bowels or from the kidneys.

Dr. B. considers, that hemorrhage from the mucous membranes, as well as purpura and purpura hemorrhagica, takes place under the same circumstances as dropsy; the exhalents from atony, and sometimes from overrepletion, as in epistaxis, allowing blood to exude instead of aqueous fluid. Even the capillary exhalents of the serous membranes sometimes allow blood to escape, which is found mixed with the dropsical lymph upon tapping, or after death.

But we must here stop. We have presented a sufficiently extended notice of Dr. Billing's Principles of Medicine, to enable our readers to form a general idea of the pathological and therapeutical views, by which his work is characterised. However much we may be forced to differ from these in many of their most important particulars, we must, nevertheless, as already remarked, concede to them the character of very great ingenuity and plausibility. At the same time, we do not consider the work before us as destitute of a high degree of excellency; much that the author has advanced, as well in regard to the nature and character of morbid phenomena as to the curative action of remedies and plans of treatment, bears in our estimation the seal of truth, and will be found to be borne out by the results of experience. He deals largely, it is true, in mere hypothetical reasoning; he has, nevertheless, combined with this many excellent practical hints, of which the young as well as the more advanced practitioner may make a very profitable use. D. F. C.

BIBLIOGRAPHICAL NOTICES.

ART. XIV. *The künstliche Pupillenbildung in der Sclerotica; Nebst einem anhange über die Verpflanzung der hornhaut, Keratoplastik. Nach eigenen Versuchen.* Von Dr. B. STILLING, Gehülfsarzt am Landkrankenhause zu Marburg. Marburg, 1833, 8vo. pp. 144.

On the Formation of an Artificial Pupil in the Sclerotica, with an Appendix on the Transplanting of the Cornea. By Dr. B. STILLING, &c.

THE idea of forming an artificial pupil, by removing a portion of the sclerotica and subjacent coats of the eye, and thus allowing an entrance to the rays of light into the interior of the eye, in those cases of blindness in which the cornea and iris are completely disorganized, while the remaining structure of the eye, with the exception in some cases of the lens and its capsule, are unaffected, appears first to have suggested itself to Autenrieth in the year 1814.

In the month of June, of this year, a female nine years old, was admitted into the hospital at Tübingen, who, in early infancy, in consequence of the small-pox, had lost the sight of both her eyes. The pupils were closed; the anterior chambers were obliterated, in consequence of an adhesion of the iris to the posterior surface of the opaque and contracted cornea. On the edge of the cornea in one eye, there remained a small transparent spot, but altogether insufficient to warrant any hope of success from the formation of an artificial pupil by the separation of the edge of the iris from the ciliary body. The eyes of the girl were in other respects uninjured, and when her face was turned to the sun, she was able to distinguish a very slight degree of light.

In contemplating this case, the idea occurred to Autenrieth, that if an artificial pupil could be formed through the sclerotica and choroid coat, sight might be restored to the patient and to all others similarly circumstanced.

Accordingly a series of experiments upon rabbits and other animals were performed; the result of which proved very satisfactorily, that a portion may be cut out of the sclerotica and subjacent coats of the eye with perfect safety; that the vitreous humour slightly projects at the opening, and that the small tumour thus formed becomes covered with a thin semi-transparent membrane, constituting a kind of vicarious cornea, through which the rays of light pass into the interior chambers of the eye, and give rise to a certain extent of vision.

The experiments alluded to show also, however, that in all probability, but a very imperfect degree of vision can be restored by an artificial pupil formed in the sclerotica—that although the covering membrane of this artificial pupil is at first tolerably transparent, there is a danger of its becoming subsequently opaque, and in this manner destroying the benefit of the operation; and finally, that it is not entirely certain that in the human subject the vitreous humour may not escape entirely through the opening formed through the coats of the eye, or a severe inflammation be induced, by which either the whole eye would be destroyed, or at least a thick layer of coagulable lymph effused so as to close up the artificial pupil.

These serious objections to the proposed operation, our author has very ingeniously, but in our opinion, unsuccessfully, attempted to remove. He admits, however, the very imperfect degree of vision obtained by the operation, even when most successful; which we grant would not be a very valid objection to it, in the cases to which it is alone applicable, could we depend upon its very generally succeeding in all other respects.

A variety of additional experiments, with the view of perfecting the opera-

tion, were subsequently made by Autenrieth, Schmid, Gärtner, Weber, Riecke, Moesner, Müller, Ullmann, Ammon, Hüter and the author.

Riecke appears to have been the first who attempted the operation on the human subject, in a sufficient number of cases at least, to test its feasibility and real value—the result of his experience is by no means however very encouraging.

The following is an outline of the cases in which the formation of an artificial pupil in the sclerotica was undertaken by this gentleman, as described in the work before us.

In 1817, the operation was performed on a female twenty years of age, who after an attack of small-pox in her third year, had remained entirely blind, and was at the same time labouring under chlorosis and a high degree of nervous asthenia. On the fourteenth day after the operation, there was discovered at the spot where the sclerotica was perforated, a small transparent tumour containing a projecting portion of the vitreous humour. Through this the patient was able to distinguish the faces of the by-standers, although somewhat distorted from their natural appearance. In the course of four weeks, the covering of the artificial pupil became somewhat obscured; it was not, however, even at a still later period completely opaque, and continued to afford the patient a partial vision.

In 1820, the operation was performed, first, on a robust country girl, who had become blind from small-pox in early youth. On the eighth day subsequently, the opening through the sclerotica was entirely closed, in consequence of the firm adhesion of its edges. Secondly, on an individual thirty years of age, who had been blind from youth, in consequence of small-pox; on the fourteenth day, the conjunctiva of the upper eyelid was found to be united with the portion of the sclerotica at which the operation had been performed. Thirdly, on a boy fifteen years old, who seven years previously had been rendered blind by an attack of scarlet fever; on the fourteenth day, not the least trace of transparency remained in the membrane covering the opening through the sclerotica.

In all the foregoing cases, the conjunctiva was removed, in the formation of the artificial pupil, in common with the sclerotica, the choroid, and retina. In the two following cases, the conjunctiva was separated from the sclerotica at the spot where the operation was performed, previous to the removal of the latter, and subsequently applied over the opening.

In 1822, the operation was performed on a female eighteen years of age, blind from early youth, in consequence of small-pox. An entirely transparent vicarious cornea was formed. Between the tenth and fourteenth days subsequent to the operation, the patient saw very distinctly the outlines of large objects. Three weeks afterwards, however, the muscles of the eye became affected with severe spasms, and the projecting transparent membrane of the artificial pupil was burst; the humours of the eye escaped, and its coats collapsed. At the end of two weeks, the ball of the eye was filled up to its original size, but no trace remained of the artificial pupil.

The same year the operation was also performed on a female thirty years of age, who had been blind from her youth, in consequence of the small-pox. A beautiful round pupil was the result, through which the patient was able to distinguish the outlines of any large object. In the course of three weeks, the covering membrane of this artificial pupil began to lose its transparency. Complete opacity did not however occur; and several months subsequently, the patient was able to distinguish light and darkness to a much greater degree than she had been previous to the operation.

From the results of the foregoing cases, Riecke has drawn the following general deductions.

1. Notwithstanding the preservation of a portion of the conjunctiva, to form a covering to the opening made through the sclerotica and subjacent coats of the eye, is an important improvement in the operation, yet the history of the first four cases, as well as numerous experiments on animals, shows, that the artificial pupil, without the covering of the conjunctiva, often remains for a conside-

rable time transparent. Even when an opaque layer of the conjunctiva forms over the opening made in the sclerotica, this may be often removed by a knife or scissors, so as to restore transparency to the artificial pupil. To secure the portion of conjunctiva over the part operated on, it is better, according to Rieche, to attach it by a suture.

2. It is absolutely necessary that the opening through the coats of the eye be perfectly circular and not too small, in order to prevent the junction and consequent adhesion of its edges. To form such an opening, he prefers a double edged curved staphyloma knife.

3. In order that the operation may be successful, in every case, a slight projection of the vitreous humour must be produced. In the lower class of animals, this occurs readily of itself, in consequence of the pressure of the strong muscles of the eye, but in man, pressure on the ball of the eye will be necessary to cause and maintain a sufficient projection of the vitreous body.

4. The formation of what has been termed a *cornea succenturiata* is very much to be doubted. The wound in the sclerotica is not closed by a transparent cicatrix, it being occupied completely by the hyaloid membrane.

5. The transparency of the hyaloid membrane always becomes somewhat diminished, but it never becomes as opaque as the sclerotica. The discovery of the means capable of preventing this loss of transparency, is much to be desired, in order to the perfection of the operation.

6. In reference to this operation, the change which occurs in the conjunctiva subsequent to *ophthalmia scarlatinosa*, as in the fourth case referred to above, demands particular attention; in all the other cases, where blindness was the result of small-pox, the conjunctiva was entirely unchanged from its normal condition.

The operation for the formation of artificial pupil in the sclerotica, was performed subsequently by J. B. Müller, but without any permanent benefit; and in 1827, it was performed by Professor Ullman. The patient, a man thirty-three years old, blind from his sixth year, in consequence of a wound of the right eye, and a subsequent hypopium of the left eye. For a short time subsequent to the operation, the patient enjoyed, to use the words of our author, "as perfect a degree of sight as under the circumstances of the case could be expected;" but finally, the artificial pupil was completely obliterated, and the patient reduced to a state of perfect blindness.

In the two or three instances in which the operation was performed by Professor Ammon, it was attended with scarcely more beneficial results. As deductions from the cases operated on by the latter gentleman, we are presented with the following.

1. That neither the form of the eye nor the sensibility to light which still exists in the diseased eye, suffer any prejudice in consequence of the operation for forming an artificial pupil through the sclerotica; on the contrary, in a few cases, the patients were of opinion, that in the clear light of day or in an artificial light, their power of vision was increased by the operation; this was particularly observed in a case in which the patient in consequence desired that the operation might be performed on both eyes. It is worthy of remark, that the excision of a portion of the sclerotica scarcely ever induces any inflammation of this membrane—in no one of the cases in which the operation was performed by the Professor, was a trace of it observed—and all three of the patients were able to use their eyes on the first, second and third days after the operation.

2. The operation for the formation of an artificial pupil through the sclerotica, does not deserve the oblivion in which it has already fallen. It has been too soon and rashly condemned, before the result of extensive experience as to its worth could be obtained.

After presenting a very full, candid and interesting account of the observations and experience of others in reference to this operation, Dr. Stilling next gives the detail of his own repeated experiments, the general results of which are thus summed up.

1. In the formation of the artificial pupil, it is necessary to remove a portion of the conjunctiva as well as of the sclerotica, chorioidea and retina. By retaining the first, we endanger the transparency of the vicarious cornea.

2. The form of the excised portion of the above coats of the eye should be either square or circular; a triangular opening is apt to close by the adhesion of its edges.

3. The artificial pupil is most appropriately formed partly in the sclerotica and partly in the cornea—a portion of the latter, with the iris and corpus ciliare being removed at the same time with a portion of the remaining coats of the eye.

4. The membrane covering the artificial pupil is not the original conjunctiva, nor is it proper it should be, but is formed by an effusion of coagulable lymph from the wounded edges of the sclerotica.

According to our author, the operation is proper in all cases in which the cornea and iris are become completely disorganized; when the iris is adherent to and inseparable from the cornea, or when the anterior or posterior chambers of the eye or both of them are filled with an opaque exudation which cannot be removed—and when at the same time the remaining structure of the eye, the retina, choroidea, and sclerotica are unchanged from their normal condition.

The operation is contraindicated in cases of amaurosis, atrophy of the globe of the eye, synchysis, hydrops bulb, varicositas oculi, deep-seated constitutional disease, and all other conditions of the eye, as well as of the entire orgasm in which the operation for cataract is contraindicated. The operation is likewise contraindicated when one eye only is diseased in the manner above described, provided the other is still unaffected. For even when the operation is the most successful, the disturbance of vision caused by the operation, may affect injuriously the sight of the sound eye—and the consequent deformity can scarcely be relieved by the use of glasses, as Schmid supposes.

The manner of performing the operation preferred by our author, is thus described by him.

The instrument required is one invented by Bünger; it consists of three lancet-shaped blades, fastened in the extremity of a square handle, in such a manner as to be perfectly firm, but at the same time readily removed when required. The largest blade is placed horizontally; it is sharp on both of its edges—the two other blades are placed perpendicularly, one on each edge of the horizontal blade; forming with the latter a kind of square trough—their points recede from six to eight lines behind that of the horizontal blade, and are covered by a small projection on the sides of the latter; the cutting edges proceed upwards, and are of an ovoid shape. All the blades gradually increase in breadth from the point towards the handle. The greatest breadth of the horizontal blade, at the spot where the points of the perpendicular blades commence, is from two to two and a half lines; and the greatest height of the perpendicular blades is the same. Besides this instrument, a Daviel's scissors and a forceps will sometimes be required, to remove any shreds of the conjunctiva or choroidea which may happen to present themselves at the edges of the opening.

The size of the portion to be excised from the coats of the eye should be about two to two and a half lines in diameter, whether square or round. The excision of a larger portion will endanger the prolapsus of the lens, or at least of too great a portion of the vitreous humor, which, if possible, is to be avoided, as the consequent collapse of the eye, by causing the edges of the opening to approach each other and to adhere, will be apt to destroy all the benefit of the operation. If the portion removed, on the other hand, be too small, the field of vision will be too much circumscribed, and even should the opening not be obliterated by adhesion of its edges, the benefit to the patient from the operation will be trifling.

Dr. Stilling prefers the formation of the artificial pupil, partly on the cornea and partly on the sclerotica, on the side corresponding with the outer angle of the eye. The centre of the portion to be excised being marked by the point at

which a line passing through the horizontal diameter of the pupil is crossed by another passing perpendicularly along the inner edge of the cornea.

The patient is to be placed as in the operation for cataract, his upper eyelid being raised by an assistant. The surgeon holding the instrument by the handle between his thumb, index and middle fingers—the thumb being applied on the upper, and the two fingers on the lower side of it—so that the edges of the upright blades are presented upwards, rests his little finger on the patient's cheek-bone, and with the index finger of the free hand, draws down the under eye-lid. The patient being directed to turn his eye towards the inner angle, the point of the horizontal blade of the instrument is to be introduced perpendicularly into the sclerotica, at a proper distance from the cornea, and passed through all the coats of the eye to the vitreous humour; the handle is then to be turned towards the temple, so as to bring the point of the blade beneath the coats of the eye, between which and the vitreous humour, it is to be passed about two and a half lines in the direction of the cornea, when it is to be again passed out through the iris and cornea; which will the more easily be effected if the horizontal blade is slightly curved upwards. The edges of the upright blades are now presented against the upper and lower angles of the external wound, and by pushing forward the instrument, cut out a square portion of all the coats of the eye, between the two incisions made by the horizontal blade. The blood being now gently washed away from the eye, any shreds of the membranes that may remain attached to the edges of the wound are to be seized with a forceps and removed by means of a Daviel's scissors. The patient is to be confined to a darkened chamber, his eye being covered with a light simple dressing. Care is to be taken to prevent the occurrence of inflammation, and if any symptoms of the latter occur, they are to be combatted with the usual remedies.

So far as the mere excision of the coats of the eye is concerned the described operation, when carefully performed, is entirely without danger, or any serious inconvenience. But in reference to its value as a means of restoring a useful degree of vision to the blind in certain cases, there are many circumstances, which, according to the admissions of our author, who is its professed advocate, render this extremely problematical.

When most successful, the transparency of the membrane covering the artificial pupil, is always more or less imperfect, and, consequently, from this circumstance alone, the degree of vision it admits of, is always trifling and obscure. In the most favourable cases, the patient is only able to distinguish between day and night, or the most striking colours, &c., of the largest objects; but more generally, he can distinguish only between light and darkness. The imperfect refraction of the light, from the want of a crystalline lens behind the artificial pupil, by which the patients are rendered myopic, detracts also from the value of the operation, as it is hardly possible to remedy this defect by artificial means.

When after the formation of an artificial pupil through the sclerotica, a tolerable degree of vision has been restored; this has become soon diminished, and finally, entirely destroyed by the more or less gradual destruction of the transparency in the closing membrane of the pupil—and although this may in some cases be obviated by the removal of the opaque membrane, there is still a danger of the one subsequently formed, becoming in its turn likewise opaque.

In one case at least, in which the operation was performed on the eye of a dog, a severe inflammation was induced, followed by suppuration, and finally, bursting of the globe of the eye. Hydrophthalmia was also induced in another instance; while a thickening of the conjunctiva with the development of large vessels, similar to pterygium occurred in two instances. In one instance, an adhesion took place between the conjunctiva palpebræ, and the wound in the sclerotica; and amaurosis was of frequent occurrence after the operation—more especially, however, when in performing it, the eye was dragged forcibly forwards, and otherwise roughly handled.

Whether future and more extensive experience will enable us to improve this operation so as to render it of more advantage in the first instance, and to prevent the occurrence of the unfortunate results above attended to, must, of course, be left for time to determine.

In the Appendix, Dr. Stilling presents a brief account of his experiments on the transplantation of the cornea. He found that if in the eye of a rabbit, an artificial pupil is made through the sclerotica, and immediately a portion of the cornea, cut from the eye of another rabbit, is accurately applied so as to cover the artificial pupil and retained in its place by a delicate suture, it will adhere without losing to any great extent its transparency. In one case, the transplanted cornea remained unchanged for six months. How far the transplanting of the cornea of a brute into the human eye will succeed, and what amount of advantage is to be derived from the operation, the facts detailed by our author are insufficient satisfactorily to prove. D. F. C.

ART. XV. *Appréciation de la Doctrine Phrénologique ou des localisations des Facultés Intellectuelles et morales, au Moyen de l'Anatomie Comparée.* Par M. JULES LAFARGUE, ancien interne des hôpitaux.

An appreciation of the Phrenological doctrine, or the localisation of the intellectual and moral faculties, by means of comparative anatomy. By M. J. LAFARGUE.

THE article, the title of which is given above, is contained in the *Archives Générales de Medicine* for March, April and June, 1838. It formed originally a part of the memoir addressed by M. Lafargue to the Society of Medicine of Bordeaux, in reply to the prize question proposed by that body—"To determine by argument, by comparative and pathological anatomy, and by physiological experiments, what is positive in regard to the localization of the functions of the Brain?"

The author has attacked the doctrine in all its details. He has attempted to show by an examination of the heads of the various vertebrated animals, and a comparison of their respective forms and dimensions, that the localization of the functions of the brain, or to speak more accurately, the localization of the phrenological organs as taught by the advocates of that doctrine, is altogether untrue. And really, if we are to receive the statements of M. Lafargue as established facts, and admit the validity of his deductions, the article before us can be viewed in no other light than as a complete and satisfactory refutation of the doctrine of phrenology.

The accuracy or inaccuracy of the author's alleged facts, and of his leading inferences, can only be established by a careful examination and comparison of the skulls of the different classes of animals. By cautiously noticing the peculiarity of conformation of the head in the individuals of each class or species, and comparing this with their known habits and disposition, we shall very speedily discover whether the views of M. Lafargue, or the Doctrines of Phrenology have their foundation in nature.

According to M. Lafargue, Phrenology cannot be true, Because—

1*st*. In certain classes of animals, the pachydermata for example, the form of the brain cannot be determined by that of the external skull.

2*dly*. In the mammalia, the form of the cranium and of the brain is altogether dependent upon the mechanical organization of the skeleton, especially in reference to the mode of station, progression, and mastication of the animals.

3*dly*. The development of the occipital crest is in exact proportion with the height of the animal, and the weight of the face—that of the interparietal is in direct proportion to the strength of the jaws, and in inverse proportion to that of the brain.

4*thly*. Hence, in all the individuals of different groups or species of animals, the conformation of the cranium is the same; thus animals whose habits and dispositions are precisely similar, differ in the conformation of their heads, from the difference in their attitudes and mode of mastication, while those whose habits and dispositions are dissimilar, resemble each other in the form of their skulls and brain, because their attitude and mode of mastication are alike.

5*thly*. Whenever any one portion of the brain is more or less developed, there

will be found a proportionate greater or less development of every other portion of the organ.

The following extract from that section of M. Lafargue's Memoir which treats "On the Relation between the form of the Cranium and the moral habits," will enable our readers to judge of his manner of treating the subject he has undertaken to investigate—

"The mouse and the rat, having the head broadest posteriorly, should, according to the phrenologists, experience to a greater extent than the other mammalia, friendship and love of habitation. If it is difficult to prove the falsity of this assertion, from our imperfect acquaintance with the disposition of the mouse and rat, yet is it possible to sustain it otherwise than by a hypothesis? But the form of the cranium and of the brain in these animals, is explained by a fact less obscure than their moral habits—namely, by their mode of station which is evident to every eye.

"All the glires or gnawing animals have not, however, a conical head; thus the rabbit and hare have one shorter, and in some degree more globular—it is broader from one temple to the other, and resembles more in every respect that of certain of the carnivora. Hence, those animals ought to exhibit courage and ferocity, while every one knows that they are mild and timid. Who does not know, on the contrary, that certain individuals of the rat-kind, the form of whose craniums indicates the possession of the benevolent affections, devastate the dove-cotes by destroying the young birds? Who is not aware of the ferocity of the field-mouse and hamster? Even distrusting the exaggerated reports of certain German naturalists, we do not hesitate to believe in the warlike and sanguinary disposition of the last-mentioned animal, the temporal region of whose skull is, nevertheless, very much depressed."

"The cranium of the beaver is distinguished by its breadth from one temple to another and its depression in other parts, so that the destructive organs should have in this animal a considerable development, and yet who has ever pretended that the beaver was a sanguinary animal?"

"Buffon does not describe it as a sanguinary animal, but he affirms that it cuts or saws, in some manner, with its incisor teeth, the largest and most resistant branches of trees, which implies a great power of mastication. In the beaver, the inferior jaw being, in fact, as strong and broad at its basis as in carniverous animals of a similar height, the bitemporal diameter of the cranium should necessarily have the same extent.

"If the cranium of the beaver contradicts the pretended seat of destructiveness, it gives a formal contradiction likewise to the localizers of the faculty of constructiveness, in as much as the depression of the external portion of the frontal bone is in contrast, in this animal, with the projection of the temporal region; and yet, the beaver is distinguished by habits of industry as the carnivora are by their ferocity. As well for the constructive as for the sanguinary habits, there is required a powerful instrument, a broad and strong jaw. Hence to favour the constructive as well as the destructive instinct, the temporal regions enlarge and allow thus for the articulation of the inferior jaw and for the insertion of the temporal muscles."

"In regard to the carnivora, we have already remarked that the cranium of the polecat and weasel is broad behind, and narrow towards the temples; now will any one ever pretend that these animals are very much given to the sentiment of friendship? The domestic ferret never attaches itself to its master, whom it bites whenever it has an opportunity; hence all sportsmen handle it with caution. No one will pretend that the ferret is not sanguinary, and yet the flatness of the temples is in contrast with the breadth of the posterior part of its skull."

"The form of the cranium of the weasel and ferret, so opposed to phrenology, is very readily explained by the mechanism of their bodies, when we consider that these little animals having, as the mouse, short extremities, require to have the skull elongated, broad behind and narrow towards the temples. This explanation is the more firmly established by the fact, that certain of the carnivora

analogous, in many respects, to the weasel and ferret, but having an attitude more elevated, approach, in the shape of the cranium, to the fox and greyhound, as the polecat, the marten, and the otter. In proportion as the animal is elevated from the ground, the head becomes shorter, and swells out in the sus-zygomatic region. The latter is more depressed in the ferret and weasel, than in the rabbit and the beaver; yet the first two, as ferocious as the tiger, destroy beyond their wants; but as they walk with the belly nearly touching the ground, it is requisite that their head should be broad behind, and narrow towards the temples. It is the same with certain of the rat kind of a very ferocious disposition, as the field-mouse and hamster. All these species have a lower jaw, of which the length makes up for its deficiency in breadth; so that notwithstanding its narrowness, in reference to the temples, it can easily articulate itself at the base of each of the zygomatic apophyses."

"In the carnivorous types, the details in regard to the form of the cranium, are explained by the attitude of the body as well as by the strength and breadth of the lower jaw. The lion, the wolf, and the cat are remarkable for the savageness of their disposition, of which the manifestations vary only in degree; but with these variations, let it be remarked, we do not observe a corresponding difference in the prominence of the temples compared with the other parts of the cranium; thus the shock-dog and the hyena have the same development of the organs of murder and of courage."

"In passing to the ruminating animals, we observe a class in which the form of the cranium, although very different from that of the carnivorous, is invariably explicable from the circumstrances relative to the mechanism of mastication. The wild or domestic animals of this class are, for the most part, mild, peaceable, and inoffensive; some, however, are more courageous and more ferocious than others, but without any corresponding difference in the form of their brain: as, for instance, the buffalo and bull. I have already said that the cranium of the camel (*camelus bactrianus*) does not resemble that of the other ruminating animals; it is distinguished from them, by the presence of an interparietal crest, and by the length of the bitemporal diameter; according to the doctrine of phrenology, it should, therefore, be more warlike and ferocious than the buffalo—whereas of all the ruminating species, it is the one that was the most easily domesticated, because it is naturally the most mild and docile."

"In the adult of the mammalia, the size of the cerebellum follows always that of the cerebrum, from which it results, that in all of these animals the generative impulse should have the same relative force."

"All birds have a large cerebellum, and the cock is not more favoured in this respect than the others.

"Among fish, in the silurus, which does not copulate more than the others, the cerebellum predominates over the rest of the brain."

We have room only for the general conclusions drawn by the author, from the facts and deductions set forth in the article before us:—

"1. In analogous species of animals, the form of the cranium, indicating the respective developments of the brain and face, measures their moral and intellectual perfection, and consequently their ferocity, which is in inverse proportion to this perfection—this results from a comparison of the tiger and spaniel. But among certain distant species, there are differences in the form of the cranium and brain, although the dispositions are the same, arising simply from a diversity in the mechanical construction of their bodies, either general or local, as may be observed by comparing the wolf and the weasel, the beaver and the cat, from whence it arises that the anatomy of the mammalia is opposed to the localization of the faculties.

"2. The form of the cranium in the different races of men, indicating the respective size of the brain and the face, measures the extent of intelligence as a whole. When two varieties of our species are distinguished, the one by the elevation of the faculties and of the higher sentiments, the other by the preponderance of the grosser propensities, the cranium is found to be uniformly large in the first, and uniformly contracted in the second. But the parietal vault, the

frontal region, and zygomatico-mastoidien regions preserve the same relative proportions in both, from which it results that the anatomy of the human race is opposed to the localization of the faculties.

"3. The major part of the skulls of murderers, thieves, and poisoners, found in the collection of Gall, have not a form different from the medium conformation of the cranium of the white race, as we have demonstrated by an exact measurement. A small number present the form desired by the phrenologists; but as we have observed this form in individuals of the mildest disposition, with a broad face and small brain, we hence conclude that it is not peculiar to thieves, murderers, &c. From which it follows that the comparative cranioscopy of individuals of the same race is opposed to the localization of the faculties.

"It only remains for us to bring together our three means of refutation, in order to appreciate their respective value. Gall and his followers, perceiving how much their system would acquire strength by the sanction of analogy, have not neglected to interpret, in their favour, the form of the head of certain of the mammalia. Thus, when the alleged peculiarities of configuration in the head of a murderer do not produce entire conviction in the mind of a sceptic, they endeavour to attain their end by appealing to comparative anatomy; they insist upon the proportions, so remarkable, of the brain of the carnivora and the herbivora.

"We observe among men of the same race differences of intellect so trifling, that we might almost invariably attribute them to exterior influences, which the phrenologists do the more willingly, as the resemblance of the heads of the same type allow rarely any peculiarity of form explanatory of the peculiar character of the individuals to be seized upon. But, in examining each variety of the human race in general, we find, on the one hand, the native faculties delineated by striking features in the moral habits; on the other hand, a medium conformation of the head characterized as the distinct type; so that if there exist between the races moral and anatomical differences, they will both be equally decided and easy to appreciate; now all these differences do exist, but they do not correspond in such a manner as to justify the localization of the faculties."

We have presented the foregoing notice of the memoir of M. Lafargue, not because we are of opinion the author has succeeded in overthrowing the doctrine of phrenology, or that all the objections to its truth which he has brought forward cannot be readily and very satisfactorily met, but because we conceive that M. Lafargue has indicated the only possible mode in which the truth or falsity of phrenology can be established—the minute study of the conformation of the cranium and brain in all the various species of vertebrated animals, especially of the mammalia, and of the most striking differences observable upon an accurate comparison of them with each other; a cautious observation of the peculiar habits and dispositions by which each species or variety of animals is distinguished, and whether any peculiar conformation of brain is invariably connected with any predominant habit, disposition, or propensity. It is neither by the metaphysical arguments, nor by the misrepresentations or ridicule of the principles and tendency of the principles of phrenology, that have, heretofore, almost invariably been made use of in attacking it, that its overthrow can be accomplished—this can be done only so soon as it shall be proved to be in opposition to the facts based on the true anatomy and physiology of the animal frame.

D. F. C.

ART. XVI. *Die Gefässdurchschlingung. Eine neue methode, Blutungen aus grösseren Gefässen zu Stillen.* Von Dr. B. STILLING, prakt arzt zu Cassel. 8vo. pp. 152, Marburg, 1835.

Die natürlichen Processe bei der Heilung durchschlungener Blutgefässe mit besonderer Rücksicht auf den Thrombus. Aus einer grossen reihe Von Versuchen an Thieren abgeleitet. Von Dr. B. STILLING. &c. 8vo. pp. 304, Eisenach, 1834.

Geschichte einer amputation des oberschenkels, wobei die durchschlingung der art. fem., art. prof. fem. und der vena fem. in anwendung gezogen wurde. Von Dr. B. STILLING, &c. 8vo. pp. 32, Hanover, 1837.

THE three works, the titles of which are given above, have reference to a new process invented by their author, Dr Stilling of Cassel, for the arresting of hemorrhage from the large vessels, whether arteries or veins, when these have been divided by an accidental wound or in operations, as well as for the obliteration of large blood vessels in cases of aneurism, &c. The process consists in carrying the divided extremity of the vessel upwards and passing it through a loop cut in its side, a short distance above the division.

This operation, when skilfully performed, is described as a perfectly secure means for arresting hemorrhage and as affording a more certain security against secondary hemorrhage than either the ligature or torsion. It is, however, in the language of Professor Hertwig, more difficult of execution, requires a more firm and skilful hand, and greater accuracy of vision than the ligature or torsion, and, also, occupies more time. It is, likewise, liable to have its success impeded or entirely destroyed by a greater number of trifling circumstances than is the case in either of the other methods for arresting hemorrhage;—it requires too for its accomplishment a larger portion of the vessel to be laid bare—it is represented nevertheless as inflicting less injury upon the vessel and less irritation upon the surrounding parts, and consequently as presenting a less impediment to the speedy union of the wound in the soft parts than the ligature or torsion.

It may be readily executed, we are assured, on all blood vessels, which have more than a line in diameter, and it is to be preferred, in injuries of the larger arteries, where an immediate union of the external wound is desirable, as in wounds of the abdomen and of the protruded bowels, in punctured wounds that can be freely enlarged, and in all cases indeed in which the divided vessel lies superficially; it being absolutely necessary in the operation under consideration that the entire end of the wounded vessel be completely within sight. On the other hand, the operation, we are told, cannot well be performed and is not to be recommended, as a general rule, in vessels of a less diameter than one line; in the larger veins; in deep seated vessels; especially when the external wound is small in extent; in such vessels as are liable to retract, when wounded, within bony channels; in vessels the parietes of which are hardened or ossified, and finally, in any case in which the life of the patient will be endangered unless one or more bleeding vessels be promptly secured.

In the first named of the works before us the operation is minutely described —of this description we present the following summary.

The instruments required, where the operation is to be performed on a divided artery, are, a common anatomical forceps, with tolerably broad points, a compression forceps, a spear pointed knife, a small forceps with slender points, slightly curved, and a thin blunt probe.

When the vessel to be operated on is undivided, in addition to the above instruments, and those necessary to lay bare the vessel, there will be also required a second compression forceps, and two ordinary forceps, to hold the deep seated ends of the vessel after its division. The forceps with which the end of the artery is carried through the loop in its side, must correspond with the diameter of the vessel, hence it is necessary that the operator be provided with several of different sizes.

When the vessel has been divided by an external wound &c., the end of it is to be drawn out somewhat as in the application of a ligature, and a compression

forceps applied upon it, at the distance of rather more than twice its diameter, from its open end. If the end of the artery is covered with a considerable amount of thick cellular membrane this is to be separated with a forceps or knife. The operator with a forceps now seizes the vessel transversely near its divided extremity, and renders it flat and tense. He then transfixes the vessel with the spear pointed knife, at about half a line to a line according to the size of the artery, from the edge formed by the flattening of its coats, and in this manner makes an incision through both its sides, in the direction of its long axis, equal in length to the diameter of the vessel and beginning about the same distance above its divided end. Through the loop thus formed in the side of the vessel, the points of a slender forceps are to be introduced from below, and passed out a short distance beyond the loop on the upper surface of the vessel. The second forceps may now be removed and the blunt end of the probe being introduced about one or two lines within the cavity of the vessel at its divided extremity, by its assistance a fold of the latter is to be carried upwards, so as to enable the points of the forceps passing through the loop to seize the greater part of the circumference of the divided extremity, which, by the careful withdrawal of the forceps, is to be carried by them from above downwards entirely through the lateral loop and somewhat stretched so as to place the latter as high up on the inverted end of the vessel as possible. The compression forceps are now to be removed and the vessel allowed to retract while the everted end is to be carried to the bottom of the wound. When the operation is to be performed on an undivided vessel—this is to be laid bare and insulated as for the application of a ligature, to about four times its diameter if a small one, and to about three times if a large one. One of the compression forceps is now to be applied at each end of the insulated portion, which is to be divided in the centre by a sharp knife and both ends of the vessel beginning with that nearest the heart are to be interlooped as in the case of a divided vessel.

The description of the operation, of which the above are the general outlines, is followed by observations on the various circumstances occurring, either during the operation or subsequently, by which it may be impeded, or its beneficial results diminished or destroyed. It is not our intention here, to give an account of them; to those who would desire to make themselves familiar with the operation, a superficial notice of them would be of little or no value, and our limits will not permit us to enter into minute details.

We may remark, however, that among the things to be guarded against in the performance of the operation, the following are described as the most prominent.

Hemorrhage, from the slipping off of the compression forceps from the end of the vessel—this is to be avoided by care on the part of the operator;—when it occurs, the divided end of the vessel must be sought for in the usual manner, and the forceps again applied.

The longitudinal incisions, by which the loop on the side of the artery is formed, may be made too long, or too far from the side of the vessel towards the centre of its upper surface, or they may be made too near to the edge or too short. In the first two cases the operation will be rendered unsuccessful—the blood escaping through the incisions;—in the third case, the loop will be liable to be torn in carrying the end of the vessel through it, or become too much stretched to retain the latter. In the last case, the end of the vessel cannot be carried through the loop without difficulty or injury to the former. Where the incision is too short, the difficulty may be obviated by enlarging it; but in the other cases, the lower end of the vessel must be cut off, and the operation repeated higher up.

The loop may be made too near to the divided extremity of the vessel, so that the end of the artery is allowed to slip out of the loop.—The incision in this case must be made on the opposite side of the artery, somewhat higher up.

In the contrary case, when the loop is made too high up, the vessel is too much dragged forward, or laid bare to too great an extent, and cannot retract sufficiently, but coming in contact with the soft parts at the bottom of the wound, it is bathed in the matter produced by suppuration, which is especially to

be avoided. The best procedure in such case, is to remove a portion of the end of the vessel by a sharp knife or scissors.

The perfect closure of the divided end of the vessel, after the loop operation, takes place, it is stated, in about the same time as after the other operations for arresting traumatic hemorrhage.

In the second of the works before us, Dr. Stilling has presented a very full and interesting history of the natural process by which the divided end of the blood vessel is permanently closed, subsequent to the loop operation, deduced from an extensive series of experiments on animals. From these experiments, it appears, that the divided end of the vessel soon retracts to a greater or less degree in different cases, and at the same time lessens in diameter, and there forms within the vessel, between the part at which the loop is formed and the first lateral branch, a coagulum by which the entire obliteration of the vessel is effected. The circumstances connected with this coagulum, denominated by the author, the thrombus, and the gradual changes which it undergoes, constitute the principal theme of the present work. The following are the general conclusions deduced from the observations and experiments of Dr. S., on this subject.

In arteries, the formation of the thrombus commences soon after the closing of the vessel, and is completed within the first eighteen hours.

The greater the repose of the blood at the closed end of the vessel, from diminished action of the heart and of the voluntary muscles, the more rapidly the thrombus forms, and vice-versa. Hence its formation commences later in the end of the vessel towards the heart, than in the opposite one.

The greater the tendency of the blood to coagulate, the quicker the thrombus is formed, and vice-versa. It is formed more early also, in the smaller than in the larger vessels.

The thrombus, is formed by the coagulation with a greater or less separation of its parts, of the blood contained in the closed end of the vessel below the first considerable lateral branch. The colouring matter of this blood, the cruor, forms always the basis and body of the thrombus, and in small vessels the extremity also. The fibrinous portion collects especially towards the extremity of the coagulum, which in the larger vessels is formed by it exclusively. When the amount of fibrinous matter is small, and the disposition of the blood to coagulate is consequently diminished, it does not become separated in the thrombus from the cruor: when the fibrine of the blood is more considerable, and it is disposed to coagulate rapidly, the thrombus is formed of layers of the red globules, and of the fibrine.

The serum of the blood forming the thrombus is partly diffused throughout the substance of the latter, partly imbibed by the parietes of the vessel, and partly escapes through the lateral branches given off at the closed extremity.

The form of the thrombus in vessels either closed by ligature or by a loop, is that of a spindle, or of two unequally sized pyramids connected at their bases by a cylindrical portion, their points presenting in opposite directions. The external surface is in general smooth. The apex of the smaller pyramid or cone is directed towards the closed extremity of the vessel. The body of the thrombus is formed of a cylindrical portion, tapering in the direction of the heart, which, according as it is longer or shorter, causes the cylindrical or pyramidal form of the coagulum to predominate. In the generality of cases the longest pyramid forms the apex of the thrombus—this, however, is often, only the short truncated termination of the body of the coagulum: the greater the amount of fibrine the blood contains, the more acuminated is the point, and *vice versa*.

The apex is always directed towards the still pervious portion of the vessel, —consequently towards the heart in the upper portion of the divided vessel, and from it in the lower portion.

The length of the thrombus is always in proportion to the distance of the orifice of the first considerable lateral branch from the closed extremity of the vessel—the more remote this occurs the longer is the thrombus, and *vice versa*.

Small lateral branches which go off near to the closed end of the vessel and quickly ramify, are filled with a prolongation of the coagulum. In large arteries

a still pervious lateral branch is also often partly filled, by a prolongation from the apex of the thrombus.

The diameter of the base, and of the body of the thrombus corresponds, in most cases, with that of the calibre of the vessel, and, hence they fill completely the latter, but at the apex the diameter of the thrombus is always less.

In the larger vessels the colour of the thrombus, at its base and body, is dark red or black, towards the apex, it becomes gradually lighter, the apex itself being whitish or yellowish. In smaller vessels the entire coagulum is of a dark red colour. Internally, the colour of the thrombus differs from that of the surface, only in those instances in which the fibrine predominates, more or less, in the concentric layers of which the coagulum is composed.

The thrombus at first adheres but loosely at its basis to the parietes of the vessel, and scarcely at all at any other part, its apex is always entirely free: in cases, however, in which the inner coat of the vessel has been torn or otherwise injured, a more extensive adhesion may early take place.

The thrombus is the least firm at its basis and body, more so towards its apex, and at the latter the most.

The coagulum in its first period affords no security of itself against the escape of the blood from the extremity of the vessel.

According to the size of the artery in which the thrombus is situated, blood vessels commence, between the first and sixth days, to be formed in the latter—in small vessels the earliest and in large vessels the latest. They appear first on the body and in the centre, and subsequently at the basis; when the formation of these vessels in thrombus takes place, a plastic substance is formed within it as well as on its outer surface.

No change takes place in the form of the thrombus until towards the termination of this period, when it becomes diminished in every direction, and the outer surface of the base and body to be covered with flocculi, while generally the surface of the apex remains still smooth.

The colour of the thrombus becomes of a brighter red than in the first period, first on its middle portion and at its apex—it gradually changes from a dark flesh red to a pale rose colour.

The adhesion of the thrombus to the inner surface of the vessel at its basis, and commonly over a great portion of its body is now firm, so that it can be separated only by force: usually the apex is still free.

The firmness or density of the thrombus becomes gradually alike throughout, and may be compared to that of a firm flesh granulation.

The foregoing changes take place more rapidly and earlier in small vessels, than in the larger, and also quicker in the divided end of the vessel farthest from the heart, than in that nearest to it.

The thrombus, in the generality of cases, now forms a complete security against any hemorrhage from the end of the vessel which it closes.

In the third period, the thrombus consists of a uniform homogeneous animal matter, its form is similar to that of the portion of the vessel in which it is formed—being cylindrical in most cases, but often however spindleshaped or conical. Its colour is at first yellowish, subsequenly grayish, white, or entirely white. Its consistency is that of a fibrous cellular mass. It now adheres throughout to the inner surface of the artery; excepting, that, at first, a portion of the apex corresponding with the calibre of the vessel, remains still free, but this free portion is gradually diminished, and the cavity of the vessel is completely and firmly closed, presenting the shape of an imperforate funnel.

The length and thickness of the thrombus still gradually diminish, until at length, the entire portion of the vessel which it occupied, to the first lateral branch, is entirely absorbed—and the occurrence of any subsequent hemorrhage is effectually guarded against.

In veins, a thrombus is never formed at the divided extremity next the heart, and in the end farthest from the heart it forms later than in the arteries.

The whole of the changes which the thrombus undergoes, proceed more quickly in veins, than in arteries—and in the smaller veins quicker than in the larger.

In veins, the thrombus contains more red globules and less fibrine than in arteries—the apex never being purely fibrinous as in the latter.

In veins, during its first period, the thrombus possesses less firmness or density than in arteries;—in other respects the circumstances of, and the changes which take place in it, are alike in both sets of vessels.

The third publication of Dr. Stilling, the title of which is prefixed to the present notice, contains an account of a successful amputation of the thigh, in which the closure of the femoral artery, the deep seated artery of the thigh and the femoral vein was affected, by looping the ends of the artery in the manner already described.

The patient was a female ten years of age, who after an injury, caused by a fall on the upper part of the left thigh, followed by inflammation and suppuration, became affected with caries of the femoral bone. The limb was amputated about a finger's breadth below the great trochanter. The stump healed entirely by the first intention.

In a note appended to this work the author examines the opinion uttered by Dr. Ungar, as the result of his experiments, upon the value, of the loop operation as a means of arresting hemorrhage, namely, that it is entirely useless—and has endeavoured to show, that this opinion has been formed entirely from the unskilful manner in which the operation was performed by that gentleman, in his experiments upon animals.

The incisions through the sides of the artery forming the loop, were, he asserts, too long, in consequence of their being measured by the diameter of the vessel when distended with blood, no attention being paid likewise to the greater or less thickness of the parietes of the vessel in measuring their diameter. The forceps used in looping the divided end of the vessel, were in the opinion of Dr. S. not adapted to its successful performance.

We have now presented to our readers, from the works of Dr. Stilling, placed in our possession by the politeness of Dr. Stahl, of Vincennes, a tolerably full account of his novel operation for arresting hemorrhage from divided vessels.—No one can doubt its practicability, however much they may its superiority, in the generality of cases, over the ligature and the other methods of securing divided vessels now in use—of its real value we profess ourselves to be incompetent to form an opinion—this can be determined only from the result of experience; though we are inclined to fear that the amount of skill required for its successful performance—the time it will consume even in the most favourable cases, and the many readily occurring circumstances which are capable of increasing its difficulty, of diminishing the certainty of its success, or of causing it altogether to fail, will stand very much in the way of its general adoption.

D. F. C.

ART. XVII.—*Recherches Médico-physiologiques sur L'Electricité Animale: Suivies d'observations et de considerations pratiques sur le procédé médical de la neutralisation électrique directe, notamment appliquée au traitement de l'Ophthalmie, de l'Erysipèle de la Face, de la Céphalalgie, de la Migraine, des Dérangemens de la menstruation, des Affections rhumatismales, de quelques Affections névropathiques, &c.* Par J. F. COUDRET, M. D. P. &c., Paris, 1837. pp. 496. pl. III.

IN this work Dr. Coudret sets out with the following physiological maxims: 1. that the nerves are true organic conductors; 2. that electricity must be considered as their active or moving principle; 3. that they present, like the galvanic apparatus, two different and distinct kinds of currents; 4. that one of these currents, destined to the functions of sensation and intelligence, passes from the internal and external senses to the brain; the other, destined to the functions of nutrition and locomotion, passes, on the contrary, from the brain or the spinal marrow, to the different parts of the muscular system and of the vast apparatus of capillary vessels.

The notion that electricity is the true nervous fluid is by no means new, and we shall presume that our readers are familiar with the reasons which are usually given in proof of it. But Dr. Coudret adds to this theory two propositions which are the foundations of his work and of his electro-medical practice. They are, 1. that every part of the system suffering under pain or inflammation disengages an appreciable excess of electricity; 2. that any means suited to withdraw or to neutralise this fluid will produce the most evident and salutary antiphlogistic and sedative effects.

The apparatus made use of for experimenting on this subject is called the Medical Electromotor, and is the invention of Mr. Fozembas of Bordeaux. It consists of a glass box or cup, having a metallic base, to which are attached a number of sharp metallic points, extending to within a short distance of the open mouth of the cup. To the outer surface of the base, a metallic cord is affixed. In using this apparatus, the cnp is attached by silk bandages, with its open mouth over the inflamed part, which has thus a number of metallic points brought near to it, though not touching it. The metallic cord is then made to communicate either with the surrounding conductors, such as the walls of the building, so that electriciity may be conveyed through it to the earth—or it is attached to an electroscope, if the object be to show that there is really electricity present.

The first object of the experiments related by the author is to establish the fact of the presence of free electricity in an inflamed or painful part; and this he asserts that he has done, in several cases, particularly of erysipelas and cephalalgia; and he states that the electricity was always negative or resinous.

The second and principal object is to show that pain and inflammation may be relieved, and numerous diseases cured, by withdrawing or neutralising the electric fluid thus generated in excess; and in proof of this, the author relates, in detail, no less than ninety-five cases treated by the Medical Electromotor.

We shall make but one or two remarks on this work. And first as to the fundamental theory. Though we are not disposed either to assert or to deny that the nervous action may be exercised through the agency of electricity, we think it evident that, if this be the case, it must be electricity in its galvanic form, and not in the state of tension of that excited by friction. For the latter, the whole human body is a good conductor, and we cannot therefore conceive how currents of such electricity could be carried separately along the nerves; or how an excess of it could remain accumulated in a painful or inflamed part. Nor the apparatus of M. Fozembas, armed as it is with points placed at a distance, even though it be but a moderate one, from the inflamed surface, would not collect from it electricity of such low tension as that which could be insulated by a moist nervous sheath. We feel confident, therefore, that there must be some fallacy in our author's first experiments. He states, indeed, that it was only under peculiar circumstances, and with the use of great precaution, that he could succeed in showing the presence of electricity by Volta's collector: the individual must be young; the skin must be dry; the air clear, &c. Now what certainty have we, that, in the few cases in which the experiment was successful, the electricity came from the nervous system at all? May it not have been collected from the air, (which always contains it,) or may it not have been excited on the dry skin by the glass cup or the silk bandages? It is worthy of remark, that in three cases in which Professor Piorres made trial of the apparatus on persons in full health, the electroscope gave the same indications as where there was inflammation or pain.

As to the numerous cases of cure related in the work, we must acknowledge that they, also, fail to carry conviction to our mind. When a peculiar system is to be sustained, it is a lamentable truth that medical facts are no more to be relied upon than mere medical speculations. If the hypothesis of Messrs. Fozembas and Coudret be true, that electricity is accumulated in an inflamed or painful part, and that its withdrawal will cure the complaint, the metallic tractors of Perkins must have answered this purpose quite as effectually as the Medical Electromotor, and he made his appeal to facts quite as triumphantly. It is a very significant circumstance, as to both these instruments, that their advocates

avow, that, to make them effectual, the system must be *prepared*, by bleeding, diet, and other medical means. Thus, also, the empiric is always the most successful with his nostrums *after* the regular physician has tried all his remedies. The Tractor of Perkins has fallen into disuse and oblivion. Is it uncharitable to predict the same fate for the Electromotor of Fozembas? R. M. P.

ART. XVIII.—*A Treatise on the Diseases of the Chest, and on Mediate Auscultation.* By R. T. H. LAENNEC, M. D., Regius Professor of Medicine in the College of France, &c. &c. &c., translated from the third French edition with copious notes, a sketch of the author's life, and an extensive Bibliography of the different diseases, By JOHN FORBES, M. D. F. R. S. &c. &c. To which are added the notes of Professor ANDRAL, contained in the fourth and latest French edition, translated and accompanied with observations on cerebral Auscultation. By JOHN D. FISHER, M. D. Fellow of the Massachusetts Medical Society. With plates. New York, Samuel S. & William Wood, 1838, pp. 784, Pl. II.

THE Treatise of Laennec on the diseases of the Chest has become an established classic in medical literature. Its great merits are known and acknowledged, and to discuss them now might consequently be deemed presumptuous. We may be permitted, however, to call attention to the present edition which is the most complete extant. It is enriched by copious additions by Dr. Forbes, Professor Andral and Dr. Fisher, and may be considered as embracing a complete summary of our knowledge of the diseases of the thoracic organs. It should be in the hands of every student.

ART. XIX.—*A Lecture on Loxarthrus or Club-foot.* By THOMAS D. MUTTER, M. D., Lecturer on Surgery; Fellow of the College of Physicians, &c. Philadelphia, 1839. pp. 104. 8vo.

THIS is an exceedingly interesting lecture. The various forms of club-foot—the pathological condition of the joints in each—the method of dividing the tendo Achillis, in order to bring down the heel; and the various apparatus subsequently required for the cure of the deformity, are fully set forth and exemplified by figures. Appended is a report of twenty-eight cases treated by the author by the methods he describes.

We are unable to give an analysis of this lecture, as it would not be perfectly intelligible without figures, and we regret this the less as the work can be readily obtained by those who are interested in the subject.

We must not, however, neglect to correct an oversight, in relation to the operation of our correspondent, Dr. James H. Dickson of New York. After awarding to him the merit of being the first to perform the operation of dividing the tendo Achillis for the cure of club-foot in this country, Dr. Mutter observes, "Strange as it may seem, he has never, so far as I have been able to find, reported his case or the means by which the cure was attempted. A statement was promised, some time since, but has not I believe made its appearance." Now, "strange as it may seem," this statement was published in this Journal for November, 1838. p. 96, the very succeeding number to that in which the report was promised.

We may also state that loxarthrus is incorrectly used as synonymous with club-foot; it is a generic term (from λοξος oblique and αρθρον a joint) applied to all obliquities of joints without dislocation—as wry neck, club-foot, &c.

The following is the author's Resumé of his cases:—Of the 28 cases, 21 were congenital, and 7 acquired.

Varus, 19, Valgus 2, Pes equinus 7. In males 19, in females 9. Both feet were affected in 16, one only in 12. The right was deformed in 8, the left in 4.

Two were in children between birth and the first year; 9 in children between first and sixth year; 16 in persons between sixth and thirtieth year, and one in a person between thirtieth and fiftieth year.

Twenty were perfectly cured and 8 are under treatment.

One was cured in from ten days to four weeks; 9 were cured in from four weeks to two months; 10 were cured in from two to four months.

These results are highly creditable to the skill of the operator.

ART. XX.—*Practical Surgery: with one hundred and thirty Engravings on Wood.* By ROBERT LISTON, Surgeon. With notes and additional illustrations, by George W. Norris, M. D., one of the surgeons to the Pennsylvania Hospital. Philadelphia, James Crissy, 1838, pp. 374, 8vo.

IN a former number of this Journal (for May 1838, p. 160), the original edition of Mr. Liston's Practical Surgery was noticed, and a very favourable opinion expressed of its merits. As confirmatory of this judgment, we may mention that within a year from its first appearance, a new edition was called for in England. We cannot doubt but that its merits will secure for it nearly equal success in this country.

The American edition is enriched by notices of the manner in which some of the more common surgical affections are treated with us; certain points lightly passed over by the author are fully elucidated, and the details of several American operations, remarkable for their rarity or originality, are given. These additions are important, and are written in good taste. They evince on the part of the editor, not only extensive and careful research, but also the possession of sound surgical judgment.

The work should be in the hands of every young surgeon.

ART. XXI.—*Tenth Annual Report of the Inspectors of the Eastern Penitentiary of Pennsylvania.* Philadelphia, 1839. pp. 28, 8vo.

THE portion of this document, more particularly interesting to our readers is, the physicians' report. The influence of confinement, especially solitary confinement, on the health of prisoners is now attracting great attention, and every contribution, however small, calculated to aid in settling the vexed questions relative to this subject, must be considered as valuable. We shall therefore present a full abstract of Dr. Darrach's report.

The number of prisoners received into the Eastern Penitentary during the year 1838, were 178, of which 115, were white, and 63 coloured.

Of the 115 white 68 were in good, and 47 in imperfect health.

Of the 63 coloured 30 were in good, and 33 in imperfect health.

The diseases under which the 80 prisoners laboured are given as follows:—Syphilitic 39, thoracic 28, abdominal 15, febrile 11, cephalic 6, various 17, making 116 diseases. Of course some of the prisoners must have suffered from complications; what these were is unfortunately not stated.

"The prisoners discharged this year," Dr. Darrach observes, "classed in reference to health and colour, are—

1	White prisoners admitted and discharged in good health, - - -	67		
2	do do admitted and discharged in imperfect health, - -	16	84 White.	
3	do do discharged in better health than when received,	16		
	do do discharged in worse health than when received, -	5		

1	Coloured prisoners	admitted and discharged in good health, - - -	22	37 Coloured.
2	do	do admitted and discharged in imperfect health, -	7	
3	do	do discharged in better health than when admitted, -	6	
4	do	do discharged in worse health than when admitted, -	2	

making of the 121 total dismissions, 91 in good, and 30 in imperfect health. The diseases which these thirty discharged prisoners have taken with them into the community, are 13 cases of dyspepsia, 4 of cough, 2 of palpitation of the heart, 1 the effect of small pox, 1 of painful swelling of the inguinal glands, 1 of scrofula, 3 of thoracic pains, 1 of chronic catarrh, and 1 of rheumatism.

"It is evident from the above statements, that the Penitentiary has received from the community, a heavy amount of disease, and that it has discharged very little. 55.5 per cent. only of the admissions were in good health, whilst the dismissions in good health are as high as 75.20 per cent., a surplus of health from this institution of 20.15 per cent.; again, 44.27 per cent. of the admissions were in imperfect health, whilst the dismissions in imperfect health were only 24.70 per cent., a surplus of ill-health from the community of 19.48 per cent., that is, the Penitentiary has been the recipient of disease, and dispenser of health."

The small-pox appeared in the Institution, and out of 401 prisoners, 59 cases occurred, 15 of which were unmodified, and the remainder of a more or less mitigated form of the disease. Two white men died of the disease, and three coloured men from the sequelæ.

"The first case of small-pox occurred on the 29th of January, in a white prisoner, No. 395, aged 48 years, occupying a cell in the lower story of the 4th block, and who had been in solitary confinement two and a half years. He had been neither inoculated nor vaccinated, and suffered a severe, unmodified form of the disease. At the time of the attack, he was employed in mending old shoes brought from the House of Refuge, a pair of which had been worn by a lad, shortly, or perhaps immediately before a very mild attack of varioloid. Through inadvertence, the clothing of No. 395, were washed by a white male prisoner, No. 824, on the 5th of February, who also was unvaccinated. On the 1st of March, he sickened, and after very severe and protracted suffering, recovered with the loss of an eye and with other mutilations. These, and other cases, indicate a contagious and highly malignant character of the disease. It observed, however, the ordinary laws of an epidemic, in the diversified locality of the cases throughout the different blocks of cells, its common premonitory symptoms and type, its gradual approach and termination, its long intervals, and its sudden augmentation within a short centre period, nineteen cases only occurring during forty days, then twenty-five in only five days, and then again thirteen cases only in the last twenty-five days of its existence."

"In regard to the effects of continued solitary imprisonment on the mind," Dr. Darrach states, "two years' observation inclines me to believe that the cases of mental disorder occurring in this Penitentary, are, with a few exceptions, of short duration, curable, and caused by masturbation, and are mostly among the coloured prisoners. The facts contained in the following table, throws light on this subject."

TABLE OF THE MENTAL DISORDERS IN THE EASTERN PENITENTIARY, DURING 1838.

WHITE PRISONERS.

Prisoners.	Age.	Country.	Health on admission.	Diseases.	Causes.	Present state.	Duration of Attack.	After Imprisonment.
No.661	20 years.	Pennsylva.	Good, - - -	Monomania, - -	Masturbat.	Relieved to a degree; subsequently died of consumption,	6 mo. 10 d.	0y. 10m. 3d.
342	22	Ireland,	Scrofula, - -	do.	Scrofula,	Do. and at work,		2
776	27	Ireland,	Disturbed mind, -	Dementia, acute, -	Unknown.	Cured; occasionally peculiar,	2 6	8 5
835	22	New York,	Good health, -	do. do.	Masturbat.	Cured, - - - -	1 1	3 9
675	60	Ireland,	Imp. health, dis. mind,	do. do.	Dis. mind,	Cured, - - - -	4 18	2 3 7
546	31	Pennsylva.	Imp. health, troubled mind.	Hallucinations, about a pistol pres. at his wicket	Unknown,	Cured, yet he says it *was* so,	14	2 5 4
859	55	Pennsylva.	Good health, -	Hallucinations,	Unknown,	Cured, - - - -	9	6 1
842	27	Holland,	Good health, dis. mind,	Mania,	Unknown,	Continued, - - -	5 20	7 12

COLOURED PRISONERS.

Prisoners.	Age.	Country.	Health on admission.	Diseases.	Causes.	Present state.	Duration of Attack.	After Imprisonment.
No 556	22 years.	Africa,	Good health, m. doubtful,	Dementia, acute,	Masturbat.	Cured, - -	16 days,	2y 3m. 5d.
322	22	Pennsylva.	Good health, m. sorry, -	do. do.	do. -	do. - -	7d & at work,	3 2 10
812	21	Delaware,	Imperfect health, - -	do. do.	do. -	do. - -	11d do.	0 5 17
800	18	Pennsylva.	do. do. - -	do. do.	do. -	do. - -	2m 8d do.	0 7 20
741	72	Pennsylva.	Good do. - -	do. do.	do. -	Rel'd., but with Halluci,	7d do.	1 0 19
888	32	Baltimore,	Chronic disease, & Gonnor.	do. do.	do. -	Cured, - -	1m 5d do.	0 3 24
924	17	Maryland,	Imp. from Mst. & Gonnor.	do. do.	do. -	do. - -	4d do.	0 1 8
921	23	Delaware,	Syphilitic and Asthmatic,	do. do.	do. -	do. - -	19d do.	0 2 27
632	24	Pennsylva.	Health good, mind indiffer.	do. do.	do. -	do. - -	1m 0d do.	0 1 6
721	24	Delaware,	Emaciated and sickly, -	do. do.	do. -	do. - -	2m 6d do.	0 1 6

"The terms, Mania, Monomania and Hallucination, used in this table, have a fixed meaning; but Dementia is a term liable to discussion, owing to its more or less copious, and its unsettled signification. It is used to designate those varieties of weakened intellect which result from old age, palsy, and kindred diseases; that which occasionally alternates with mania and melancholy, and that in which these forms of insanity too often terminate. Dementia, is however also applied to those cases of weakened intellect, which are produced from masturbation, of which there are evidently two kinds; viz: 1st, that which Esquirol places under the second variety of his third species of insanity, and is called *chronic* dementia; 2d, that which is recent and *may* properly be placed under the first variety, called by this distinguished authority on mental disorders, *acute* dementia. The cases in the table, are mostly of this latter kind. By masturbation, the physical energies of the cerebrum are diminished, whilst those of the cerebellum are morbidly augmented, so that with the incoherence which characterizes dementia, there exists also erroneous perceptions, and a manifestation, more or less violent, of ungoverned and lustful passions. If, through ignorance of this specified cause, and consequent inappropriate treatment, these acute cases of dementia are permitted to continue, they become, I apprehend, the sad cases of chronic dementia from masturbation, which are found in Lunatic Asylums and Hospitals. The treatment in the Eastern Penitentiary, has, as yet, prevented such results.

"The important facts disclosed by the above table, are 1st, that the period of continued separate imprisonment, previous to mental disorder, is very short; in ten of the eighteen cases, it is less than a year, the longest being 8 months and 5 days, and the shortest only 39 days, making an average time of only 5 months and 12 hours. The average time of the other eight cases, is about 2 years and 9½ days. Four of these cases are coloured prisoners, who had only short attacks of acute dementia from masturbation. Of the remaining four cases, No. 661 became first irritable, obstinate and violent from masturbation, then monomaniac, and after becoming fatally consumptive, recovered his mind. No. 342 had his attack immediately after the healing of a chronic scrofulous running of his ankle joint, and now he is at work, with a mild peculiarity of mind on certain subjects. No. 675 is an aged prisoner, who came in vexed about being falsely imprisoned by false witness; after 4 months 18 days of mental debility and hallucination, he is now comfortably at work. No. 546 had for 14 days an hallucination of a pistol presented at his wicket constantly; he is now fat and florid, and at work, but is obstinately of the opinion that the pistol was presented at him, and becomes excited if opposed in this belief. How can *solitude* and *confinement* be the cause of these cases of disordered mind? If these be the agency, it has been efficient in ten cases in less than half a year. 2d. Of 241 *white* prisoners, there are only 8 cases of mental disorder, equal to 3.33 per cent., whilst of the 161 *coloured* prisoners, there were 10 cases, equal to 6.21 per cent., showing a double liability in the coloured prisoners of the Eastern Penitentiary to disorders of the mind, which, I apprehend, is a novelty. 3d. That the less intelligent of the prisoners, particularly the coloured, during the *early* period of their imprisonment, practise excessive masturbation. I say '*the early period*,' because it is then this vice is chiefly practised, owing doubtless to their recent separation from all the low forms of sensuality, to which, in the community, they were slaves, from which, however, they become gradually weaned by the regular six days profitable labour, and sabbath rest, and gospel ministry of their separate imprisonment. The effects of this practice, are first to produce dyspepsia, then acute dementia, and finally chronic pleurisy and pulmonary tubercles. Remove this cause, and the diseases of this Penitentiary will chiefly be those brought into the institution. I am happy to state that my observations, during two years in this Penitentiary, have not only exposed to me the chief causes of some particular diseases, but that they have enabled me to apply more efficient treatment, and that in coming years there is a prospect of less mortality, and fewer cases of mental disorder. In view of the above facts, what effect has the solitude and confinement of

this Penitentiary, such as it is, with faithful, kind, supervision, daily labour, well lighted, ventilated, and warm cells, and medical and gospel visitations and ministrations, to disorder the mind of the prisoners. If such imprisonment produced this result, it has done it in the short average period of 5 months and 12 hours, in the cases of 10 prisoners this year, whilst hundreds of prisoners, some of whom have been in its solitude and confinement for years, have been already discharged from this institution in better state of body and mind than when they entered it."

The following tables show the mortality in the prison during the year, the causes of death, &c.

WHITE PRISONERS.

Prisoners.	Diseases.	Causes.	State of Health on Admission.	Length of Im. at Decease.
No. 785	Ch. Inflam. of Bladder, &c.	Large Calculi encrysted,	Admitted with the Disease, . . .	0y. 4m. 19d.
661	Consumption,	Masturbation	Good, ...	1 3 5
739	Consumption,	Syphilitic, ...	Secondary Syphilis,	1 0 0
429	Small Pox,	Unprotected, ...	Good, ...	2 6 0
887	Small Pox,	Unprotected, ...	Good, ...	0 0 20
304	Ch. Diarrhœa,	Ch. Dementia. from Mst.	Debility of body and mind from Mst.	3 6 10
650	Consumption,	Tubercular Diathesis .	Frequent Hæmoptysis.	0 10 25

COLOURED PRISONERS.

Prisoners.	Diseases.	Causes.	State of Health on Admission.	L. of Im. at Decease.
No. 615	Consumption, - - - - - -	Ch. Pl. & Pericarditis	Ch. Pul. Disease.	1y 5m 0d
347	Chronic Inflammation of the Lungs -	Scrofula	Good health appar.	3 0 21
688	Scrofula of the Chest - - - - - -	Syphilis	Syphilitic	1 5 10
442	Chro. Inflam. of Stomach & Pleura -	Masturbation & Cold		2 7 10
251	Chro Inflam. of the Lungs - - - -	Do. do.	Good health	4 0 3
814	Do. do. do. - - - -	Chronic Pleurisy	Chro. Pul. Disease	0 8 2
679	Do. do. do. - - - -	Do. do.	Good health	1 6 16
834	Ch. Inflam. of the Peritoneum - -	Small Pox and Scrof.	Scrofula	0 7 18
716	Ch. Inflam. of the Bowels - - - -	Do. do.	Imperfect health	1 4 29
708	Consumption - - - - - - -	Chronic Pleurisy	Scrofulous	0 13 10
446	Chro. Inflam of the Lungs - - - -	Masturbation.	Good health	2 10 11
574	Do. with Scrofula - - - - - -	Do. Syphilis & Scrof.	Syphilis and Scrof	2 5 23
290	Do. do. - - - - - - -	Double Chronic Pleu.	Good health app'ly	3 11 13
645	Inflam. of the Bladder, with Paralysis	Mst & Ch. Pleurisy	Very good health	1 11 27
653	Ch. Scrof. Inflam. of Peritoneum & knee joint. - - - - - - - -	Scrof. & double Chro. Pleurisy	Scrofulous	2 0 3
815	Ch. Scrof. Inflam. of Peritoneum - -	Mst & double Ch. Pl.	Imperfect health	1 0 25
549	Chro. Inflam. of the Lungs - - - -	Do. do. do.	Gonorrhœa	2 10 8
647	Consumption - - - - - - - - -	Do. do. do.	Imperfect health	2 1 11
844	Consumption - - - - - - - - -	Tubercles	Good health	1 0 21

"It appears from these tables of mortality," observes Dr. Darrach, "that 26 deaths have occurred during the past year, a greater mortality by 44 per cent. than has previously happened. This augmentation has evidently been owing to small pox, chronic pleurisy and chronic tuberculous inflammation of the lungs, among the *coloured* prisoners. These prisoners, of which there are 40.14 per cent., have caused 73.07 per cent., of the mortality. The deaths directly and indirectly caused by small pox, and the incidental case of stone in the bladder being included, the total per centage of mortality among an average of 401 prisoners. is 6½ per cent., that among 241 white prisoners is 2.86, and that among 161 coloured prisoners is 11.80; and exclusively of the 5 incidental cases, the total per centage is 5.23 per cent., that of the white 1.65 per cent., and that of the coloured prisoners 9.85. These estimates, in regard to the white prisoners, show a mortality about the same as that in the community, whilst in regard to the coloured prisoners, it is about double, as appears by the following table.

Table of the Annual Mortality of White and Coloured Persons in the City and County of Philadelphia, and in the Eastern Penitentiary of Pennsylvania.

Population.		Mortality.		Per Ct
White Pop. of City and County of Phila.	172,306	Mortality in 1830,	3651	2.11
White Pris. of Eastern State Penitentiary,	241	Entire Mort. in 1838,	7	2.86
Do. do. do.		Mort. without that from Small Pox, &c.	4	1.65
Coloured Pop. of City and County of Phila.	15,655	Mortality in 1830,	643	4.10
Coloured Pris. of the Eastern Penitentiary,	161	Entire Mort. in 1838,	19	11.80
Do. do. do.		Mort. exclusive of effect of Small Pox, &c.	17	9.85

"The important facts which this table discloses, are, 1. that the mortality among the white prisoners of the Eastern Penitentiary, is only .75 per cent. greater than that in the community; and that exclusively of the deaths from small pox, and one from calculi, it is 46 less than that in it. 2. Among the coloured prisoners, it is more than double of that of this portion of our city and county, With this fact in view, it is not surprising that, among that depraved part of the coloured population who become prisoners, there shall be an average of 9 per cent. of mortality. This analysis will serve to correct an allegation which has been made, that the mortality of the Eastern Penitentiary is greater than that of the other prisons of the United States."

We have restricted ourselves to giving an analysis of the interesting report of Dr. Darrach, without indulging in any comments, but we must not, hence, be supposed to adopt all the conclusions of its author. It seems to us, that many more facts are required than those adduced in the report, to justify any positive conclusions as to the precise influence of particular causes in the production of the diseases of prisoners, and especially to authorise so general a reference of all their diseases to a single vicious habit—masturbation. "Remove this cause," observes Dr. Darrach, "and the diseases of this penitentiary will *chiefly* be those brought into the institution." To detect the practice of this vice is usually difficult; to determine the extent that it is practised in our penitentiary would require years of the most careful and closest observation; and then it will require no little investigation to determine how far it contributes, or is of itself operative in the production of disordered intellect. Dr. Darrach's position gives him facilities, which we are sure he will not neglect, for the decision of these questions.

ART. XXII.—*An Introductory Lecture to a Course of Lectures on the Theory and Practice of Medicine, in the University of Pennsylvania: Delivered at the opening of the Session of* 1838-39. By N. CHAPMAN, M. D. Prof. &c., Phila. 1838. pp. 19. 8vo.

THIS, like every production from the pen of the distinguished author, bears evidence of classical reading, refined taste, and powers of eloquence. The view which is presented of the scope and purposes of our profession is just and liberal—one which must prove an incentive to the student to zeal and industry, by showing him the responsibilities he will assume, and by leading him to a proper estimate of the dignity and importance of our noble calling.

SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES IN THE MEDICAL SCIENCES.

GENERAL ANATOMY AND PHYSIOLOGY.

1. *Case of Natural Somnambulism.*—The following case of natural somnambulism is sufficiently interesting in itself to deserve notice, but it becomes doubly so, when viewed in connection with the curious case of double consciousness, recorded in the original department of this No. (p. 49.) These two conditions, seem to us, to belong to the same order of phenomena, as do also probably the Mesmeric condition. It is only by carefully observing and comparing all these states that we can ever hope to remove the thick veil by which for the most part, the functions and pathological conditions of the nervous system are now enveloped.

Madame Flambeau of Vancouleurs has, for about six years, exhibited the most remarkable phenomena of natural somnambulism. She is 21 years of age, of middle height, agreeable appearance and extreme timidity. She was married at 17 years of age, and the year following had a daughter, who enjoys excellent health.

The first act of somnambulism observed in Madame F. was when she was in her 15th year. She was then at boarding-school, and learning music; notwithstanding all her endeavours, she could not fix in her mind a certain romance and its accompaniment; what was her astonishment one morning to find that she knew both the words and the music perfectly? The preceding night she had been observed by her schoolmates, to rise and dress herself, and she had spent two hours in practising and repeating the song.

Dr. VERDET, the relator of this case, was first called to Madame F. on the 9th of August, 1836. She had suffered for some time previously to this period from *intolerable pain in the head*, of a somewhat remittent character. From this she was relieved by loss of blood, and sulphate of quinine.

Dr. V. had then an opportunity of inquiring into the foundation of the rumours afloat in the place, relative to this lady being subject to somnambulism. Her husband who had endeavoured to conceal the circumstance, acknowledged its truth to Dr. V.

The lady rose every night regularly between twelve and one o'clock, left her chamber, walked out, returned, and conversed. Her husband, at first, paid little attention to this; but having soon become convinced that his wife was a somnambulist, he took the necessary precautions to prevent her leaving her chamber; and one night he shut and locked the chamber door, and, having hid the key, he went to sleep in security. But at the usual hour, his wife rose, sought for and found the key, opened the door, and went out as usual. In one of these nocturnal excursions she took a pot of butter from the kitchen and concealed it on the roof behind a chimney. The next day, and subsequently she complained

of its having been stolen. Sometime afterwards she returned it to its former place.

Some days after this, she put on during the night her ball dress, and perfectly dressed and asleep, sallied forth at two o'clock in the morning, traversed a part of the town, returned, and went to bed as if it were her usual time for retiring.

Another night she left her house about two o'clock in the morning, walked through the streets in her chemise, and seated herself on a bench opposite to her dwelling. At this moment a carter passed with his vehicle, and seeing her, took her for a ghost and struck her a severe blow with his whip. The pain awakened her, and made her scream out, but she instantly relapsed into her state of somnambulism, and returned home sobbing and went to bed to her husband. The next day, there was a weal, painful, red and swollen, around her body from one breast to the other, attesting to all but herself, the reality of her apparition in the street. The cartman was distressed at his mistake.

Another night she went to the hospital at the same hour, and after having rung loudly, she conversing with the sister of charity, who knew her situation, and had opened the door for her, as if she were awake; afterwards having asked for sister Regis to whom she was taken, she sat down, held a long conversation with her, speaking very seriously, and, finally, allowed herself though reluctantly to be led home.

One night she went in her chemise to the hospital and rung; whilst waiting for admittance, she was seen by an opposite neighbour, who seeing her clothed in white, took her for a ghost, and having crossed himself, endeavoured to drive her away, by abusing her from a distance and threatening her. Surprised at this unusual language, she became frightened and fled, disappearing like a shadow, and leaving the exorciser persuaded that it was the spirit of a young man who a few days previously had fled from the hospital.

Many nights she walked in her chemise in the burial place, to the great alarm of credulous persons.

Finally, her nocturnal excursions becoming very frequent, and endangering her life, her husband was strongly urged to have a strict watch kept over his wife. To prevent her walking out, her husband now adopted the expedient of locking the chamber door, and taking possession of the key. The first night he did this, our somnambulist, after having in vain searched for the key, opened the window, and jumped from a height of fifteen feet into the street. The shock was violent, and occasioned severe pain in her head and right side. She awoke for a few minutes, then relapsed into her state of somnambulism, entered her house, and with difficulty got up stairs, and knocking at the door of her chamber awakened her husband, who was not a little alarmed at seeing the window open, and finding his wife at the door, with one foot bare, and the other with a slipper on covered with mud. Three or four times afterwards, Madame F. notwithstanding the precautions taken, jumped from the window in her sleep. In consequence of these violent shocks, her health became impaired so seriously that she was compelled to keep her bed.

She had a constant pain in the right side of her head; she was attacked many times daily, and at irregular times, with such violent nervous paroxysms, that three or four persons could not hold her. She was during this period, entirely delirious. The hepatic region was renitent and very painful on pressure, pulse frequent and full; face jaundiced; irregular, alternate chills and heat; and her skin appeared alternately pale and red. Dr. Verdet was called to the patient, and immediately bled her copiously, had her put into a bath, and ordered an antispasmodic draught. The next day forty leeches were applied to the region of the liver and this part afterwards covered with emollient cataplasms; the bath was repeated. Subsequently, the pain in the right side of the head, being the predominant symptom, leeches were applied to the angle of the jaw and behind the ear of this side; and leeches were again applied to the region of the liver. Notwithstanding this energetic treatment, the violence of the disease did not decrease. So great was the sensibility of, and tumefaction of the hepatic region that her physicians did not doubt but that suppuration was taking place there.

Assafœtida was afterwards given in pills and in enemata, to calm the nervous symptoms, but without any benefit.

One morning in visiting the patient, to her physician's surprise, he found the right hypochondrium soft, and not the least painful on pressure. The patient stated that the previous night she had been attacked with a violent colic, had two very copious and fœtid stools, and from that moment, the pain had disappeared.

From this period, the abdominal symptoms gradually ceased, but the nervous phenomena continued. After a long and tedious convalescence, the treatment during which is not given, the patient's health is said to have become re-established.

The patient, however, continues to be a somnambulist, but she does not endeavour to jump out of the window. She rises, lights a candle and the fire, tries to get out, but finding the doors locked, she either goes to her spinning wheel, or returns to bed. It is remarkable that she never rises more than once in any one night.

The following is related as her last act of somnambulism. Her uncle, Abbe T. was about giving a feast to the clergy. He desired the table to be laid the night before, in order to prevent his servants being hurried the day of the feast. This was neglected. Our somnambulist arose at midnight, and though she was ignorant of where most of the articles were placed in her uncle's closet, she arranged the table in the most perfect manner; she did not even forget to place before each guest, a common wine glass and a claret glass. She cut also the bread, and placed a piece in each napkin. All this was done without noise, without crowding, or breaking any thing; after completing the arrangement she returned to her bed. The surprise was general.

The domestic who slept in the same room with Madame F. informed Dr. V. that when the latter got up, and was interrogated as to her designs, she answered tartly and almost angrily; she had her eyes open and fixed, and often resorted to flattery to obtain what she desired.—*Bulletin Gen. de Therap.*

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2. *Observations on the Fluid of the Vesiculæ Seminales of Man.*—Dr. John Davy, with the view of throwing light on the nature of the fluid of the vesiculæ seminales of man, there being still a difference of opinion among physiologists, as to whether the fluid in question is secreted by the testes or vesiculæ, has examined the fluid in the vesiculæ, and in the vasa deferentia, after death, in a variety of cases, in the General Military Hospital at Fort Pitt, and in a communication published in the *Edinburgh Med. and Surg. Jour.*, for July last, he details the results of twenty of these examinations, and the inferences deducible from them. The latter are as follows:

"The first inference that appears to me unavoidable is, that the *vesiculæ* are seminal reservoirs, according to the old opinion on the subject, and that which is still most commonly entertained by the continental physiologists. And next, that they are not merely reservoirs, but are also secreting organs, furnishing mucus, and perhaps some other fluid, for admixture with the semen.

"The first inference is supported by the general resemblance, in several cases, of the fluid of the *vasa deferentia* and of the *vesiculæ*, and of the existence of the characteristic spermatic animalcules in the fluid of the *vesiculæ*, in every instance in which they were detected in the fluid of the *vasa deferentia*.*

"The second inference is supported by there being a certain difference in almost every case between the fluid of the *vesiculæ* and that of the *vasa deferentia*, and especially by the circumstance, that the difference of quality is most percepti-

* I may add, that I have observed spermatic animalcules in the vesiculæ of the ram and bull, precisely similar to those found in their testes and *vasa deferentia;* and if I recollect rightly, they have been detected in the vesiculæ of some other animals by MM. Prevost and Dumas. Whether the vesiculæ of certain animals, however, have not a specific use, distinct from that of being merely reservoirs, appears to be deserving of further and special inquiry.

ble in the fluid of the fundus—where most out of the way of being readily mixed with the fluid of the testes. What the exact difference of qualities is between the fluid of the vesiculæ and of the *vasa deferentia*, and, it may be added, of the *vasa deferentia* and of the testes, in perfect health, remains to be ascertained. It can be determined only by careful examination and comparison in the instances of criminals who have been executed, or of persons who have been killed by accident, not labouring under chronic disease, and in the vigour of life. I am disposed to think that the difference will not be found very considerable, and that between the fluid of the vesiculæ and of the *vasa deferentia*, it will consist chiefly in the former being more dilute and perhaps more bland and mucous."

"Relative to the effects of disease on the fluid of the *vesiculæ seminales*, and on the spermatic fluid generally, the instances brought forward are too few to admit of extensive induction. They seem to show, 1*st*, That chronic wasting diseases, terminating in death, arrest the secretion of the testes, or the production of those animalcules, on which, there is much reason to infer, the active power of the semen depends; 2*dly*, That the contents of the vesiculæ and *vasa deferentia*, under the influence of disease, retain longer their characteristic qualities than the contents of the tubuli; and, 3*dly*, That there is least fluid in the vesiculæ and in the *vasa deferentia*, and that it is most altered in instances of chronic diseases of the abdominal viscera, and especially of the intestines.

"Admitting that spermatic animalcules are characteristic of and essential to healthy spermatic fluid, in certain doubtful criminal cases, probably, decisive evidence may be obtained by means of microscopical examination. The spermatic fluid undergoes change rapidly when exposed to the air, and even soon becomes putrid; but the spermatic animalcules, I find, resist change in a remarkable manner. In one instance, distinct remains of these animalcules were observed in putrid fluid, which had been kept ten weeks, at a temperature varying between 50° and 60° of Fahrenheit. In another instance, some fluid of the vesiculæ was applied to linen, and wrapped in paper and put by in a close drawer. It was examined the following day; at the end of a week, and after eighteen days, and each time animalcules were discovered under the microscope. The mode of making the trial was by saturating a small portion of the smeared linen with a few drops of water, and gently pressing out a drop for the experiment. Fragments of the animalcules were very distinct, and sufficiently characteristic; and on careful inspection, an entire animalcule, here and there, was observed. The application of these facts to the purposes of evidence does not require any comment."

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3. *On the Veins of the Uterine Decidua.*—Dr. Robert Lee says that he has examined many ova which have been expelled from the uterus in the third month of pregnancy, and in all of them he has observed the openings in the decidua reflexa, described by Dr. Wm. Hunter, near the angle where it joins the uterine decidua. Those openings, he says, are of an oval shape, with smooth margins, and they always pass obliquely through the membrane. If a blow-pipe be inserted into one of these, the interstices of the villi of the chorion and placenta are all readily inflated, and the air soon begins to escape freely from all the other apertures in the decidua reflexa, around that opening into which the blow-pipe had been inserted. If a tube with mercury be introduced into one of these apertures in the decidua reflexa, all the interstices of the villi of the chorion and placenta are likewise readily filled, and the mercury afterwards begins to escape from the numerous openings on the surface of the decidua reflexa. The same thing happens if air or mercury be first made to enter the interstices of the placenta, or villosities of the chorion. These circumstances render it probable that by means of the apertures, in the decidua reflexa, which resemble venous canals, there exists a free communication between the interstices of the chorion, and the cavity formed between the decidua vera and reflexa, and that the maternal blood circulates through these. This is rendered still more probable from the fact, that in the greater number of ova, blood in a coagulated and fluid state is found in the interstices of the villi of the chorion, and that by slight pressure the blood

flows readily through the smooth openings in the surface of the decidua reflexa. More or less blood is also found in all cases in the cavity of the deciduous membranes, where these have not been lacerated in the process of expulsion. This fact was pointed out by Breschet and Velpeau many years ago.

The inner surface of that portion of the uterine decidua corresponding with the decidua reflexa is smooth, and is also perforated with a great number of small, oval-shaped apertures. These openings in the uterine decidua are found to communicate with smooth canals, which run obliquely in the membrane towards the uterine surface, and there terminate in larger openings, of an oval form, with thin valvular-like edges. These canals in the uterine decidua have other smaller canals opening into them as they proceed enlarging, towards their termination on the uterine surface. Air or mercury passes readily from the inner to the outer surface, along these canals, in the uterine decidua.

In many of the ova which I have examined, I have observed the little bags described by Dr. Montgomery, on the outer surface of the decidua vera. On opening these bags, their inner surface is almost always smooth, resembling the inner surface of the uterine decidua, and in several specimens I have observed at the bottom of these sacs, a small smooth aperture communicating with the oblique canals above described in the decidua. Air or mercury introduced into these bags, has passed freely into the canals, and escaped through the openings on the inner surface of the decidua. If a blow-pipe be introduced into one of the apertures on the smooth inner surface of the decidua, the oblique canals in the membrane can all be readily inflated, and the air escapes on the uterine side through the openings in the bags, and through other openings in the membrane. In one instance, what seemed to be a small coagulum of blood filled one of these sacs.

The following is the interesting description which Dr. Montgomery has given of these cup-like elevations in the uterine decidua, and which I am disposed to regard as the terminations of those dilated decidual veins which convey the maternal blood from the cavity formed between the deciduæ, into the veins of the uterus:—

"Repeated examinations have shown me that there are, on the external surface of the decidua vera, a great number of small cup-like elevations, having the appearance of little bags, the bottoms of which are attached to or imbedded in its substance; they then expand or belly out a little, and again grow smaller towards their outer or uterine end, which, in by far the greater number of them, is an open mouth when separated from the uterus; how it may be while they are adherent, I cannot at present say. Some of them which I have found more deeply imbedded in the decidua, were completely closed sacs. Their form is circular, or very nearly so; they vary in diameter, from a twelfth to a sixth of an inch, and project about the twelfth of an inch from the surface of the decidua. Altogether, they give one the idea of miniature representations of the suckers of the cuttle-fish. They are not confined to any one part of the surface of the decidua, but I think I have generally found them most numerous and distinct on those parts of it which were not connected with the capillary rudiments of the placenta, and at the period of gestation which precedes the formation of the latter as a distinct organ; they are best seen about the second or third month, and are not to be found at the advanced periods of gestation."

Dr. Montgomery has added the following note to these observations:—"I confess I am not prepared (nor, indeed, is this the place) to offer any very decided opinions as to the precise nature or use of these decidual cotyledons, for to that name their form, as well as their situation, appears strictly to entitle them; but from having on more than one occasion observed within their cavity a milky or chylous fluid, I am disposed to consider them reservoirs for nutrient fluids separated from the maternal blood, to be thence absorbed for the development of the ovum. This view seems strengthened when we consider that at the early periods of gestation the ovum derives all its support by imbibition, through the

connection existing between the decidua and the villous processes covering the outer surface of the chorion."*

If the preceding account of the decidual veins be correct, it appears that the circulation in the human ovum in the third month of gestation is carried on in the following manner:—The maternal blood is conveyed by the arteries of the uterine decidua into the interstices of the placenta and villi of the chorion. The blood which has circulated in the placenta is returned into the veins of the uterus by the oblique openings in the decidua covering the placenta. The blood which has circulated between the villosities of the chorion passes through the openings in the decidua reflexa into the cavity between the two deciduous membranes, from whence it is taken up by the numerous apertures and canals above described in the uterine decidua, and so passes into the veins of the uterus.—*London Medical Gazette*, Dec. 1838.

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4. *On the Venous Circle of the Mammary Areola.*—In dissecting the mammæ, Professor SEBASTIAN had frequently observed a filament beneath the areola, apparently describing a circle round it; but being unable to procure the gland of a woman giving suck, he for a long while deferred the investigation of its nature. However, by boiling an empty mammæ for twenty-four hours, the close cellular tissue of the organ was so effectually loosened, that an excellent substitute for the full gland was obtained. By examining it he satisfied himself that underneath the skin of the female areola a circle exists, which usually surrounds the greatest part of the base of the nipple at the distance of a line and a half from it. In some cases instead of being circular it is angular, its angles giving origin to branches running towards the circumference of the areola; other smaller twigs ascend from it into the nipple itself. Its vascular and venous nature was proved by injection. The circle exists in the male also, though in him it exhibits a somewhat different form. This anatomical fact has altogether escaped the notice of modern observers, at least no mention is made of it by Meckel, Cloquet, Weber, Lenhossek, &c. The indefatigable Haller, however, distinctly described it in his Elements of Physiology, vol. vii. sect. 1. Sebastian proposes in consequence that it be called Haller's circle. As to its use, he believes that it has much to do with the erection of the nipple. Hitherto that part of the breast has been referred to the class of erectile tissues, more on account of its exhibiting the phenomenon of erection, than from anatomical demonstration of its structure. But when the venous circle becomes turgid from being filled with blood, and at the same time the veinules forming communications between it and the nipple are filled, the whole apparatus must push up and cause the erection of the nipple."—*B. & F. Med. Rev.* Jan. 1839, from *Tydsch. voor Natuurl. Gesch.* 11 Deel, 3 S.

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5. *On the accessory Supra-Renal Capsules.*—By Professor SEBASTIAN.—"In the body of a woman who died of general dropsy, with tubercular disorganization of the kidney, I discovered, attached to one of the supra-renal capsules, corpuscula of a different shape from that of the capsule itself, not more than a line and a half broad, but of the same colour and structure as that organ. There were evident fibres in the cortical substance and internally a distinct cavity. These characters justify me in considering the bodies described as supernumerary capsules. They could scarcely be looked on as lobes of the principal gland, as they were only united to it by loose cellular membrane. I never felt persuaded of the close relation of the supra-renal capsules to the lymphatic, but have always felt inclined to refer its function to the vascular system. To me the vein issuing from it appears to fill the office of an excretory duct, and to convey either a material secreted from the arterial blood, or that fluid itself modified in its properties, and destined for the improvement of the venous blood. The great size of the organs in the fœtus is thus accounted for, as also the peculiar

* An Exposition of the Signs and Symptoms of Pregnancy. By W. F. Montgomery, M. D. London, 1837. P. 134.

disposition of the vein itself, which is such that by it the whole gland is easily distended. Thus too is explained the fact, that in diseases of the venous system these glands are not unfrequently found either increased in bulk or otherwise unhealthy. According to this view, therefore, the capsules would act the part of a placenta. I have not discovered any distinction between the globules of the supra-renal and renal veins.—*Ibid.*

PATHOLOGICAL ANATOMY AND GENERAL PATHOLOGY.

6. *Exostosis of the Pelvis of unusually rapid growth.*—The following example of this was related by Wm. Lawrence, Esq., the distinguished surgeon of St. Bartholomew's Hospital, in a recent clinical lecture.

Mary Petit, thirty years of age, has gained her livelihood by selling fruit in the streets, and has led an intemperate life. About six weeks before she came to the Hospital she observed that the veins of the right leg were swollen, and she attributed the circumstance to over exertion. Soon after, a tumour, the size of a nut appeared in the situation of the femoral absorbent glands on the same side; it did not prevent her from following her occupation. As the swelling increased, and became painful, especially on exertion, she applied at the hospital, and was admitted on December 21, 1837. At this time the veins of the right lower extremity were varicose in a slight degree, and there was a tumour in the bend of the thigh not larger than a pullet's egg. Being of oval figure, with slight irregularities of surface, it was considered to be an enlargement of the femoral glands. It was free from redness, and not painful on pressure; yet the patient complained of considerable uneasiness in the part.

The Ung. Potassæ Hydriodatis to be rubbed on the swelling.

29*th.*—Great pain in the swelling.

Ten leeches; linseed poultice.

Jan. 1*st*, 1838.—The tumour is larger, and so painful as to prevent rest at night. The limb is œdematous.

Four grains of Potassæ Hydriod. in two ounces of Decoct. Sarsap. Co. three times daily. One-third of a grain of Muriate of Morphine every night.

9*th.*—The limb more swelled, with increase of pain.

The dose of Morph. Mur. increased to half a grain. An ointment, consisting of Cerat. Cetac. ℥ss., with Pulv. Opii, ʒj. to be rubbed on the swelling in in the thigh night and morning.

The tumour increased rapidly, and became more and more painful. Having been at first movable like a glandular swelling, it became fixed, and extended along the inside of the thigh, in the direction of the pubes and ischium, forming a large mass, of firm feel, not painful on pressure, filling up the space between the pelvis and the thigh. In the early part of April, the growth was found to extend behind the abdominal muscles, towards the cavity of the pelvis. It continued to increase rapidly, both on the outside and inside of that cavity, its growth being attended with correspondent general swelling of the limb.

On May 1st, the tumour, which is hard and incompressible, has stretched across the pelvis to the left side of the body; and the left leg begins to swell. On May 17th, it had nearly reached the umbilicus. Her sufferings were constant and acute, and only imperfecly relieved by opiates; her strength was thus exhausted, and dyspnœa came on in June, when she was so reduced and enfeebled, that death was expected daily. She lingered till July 1st.

Neither local nor general means had the slightest effect on the complaint. The treatment consisted in the free use of opiates, particularly of the muriate of morphine, and in the allowance of such nutritious diet and cordials, including animal food, sago, porter, and wine, as the weakness required, and the appetite would admit of.

The disease consisted of an enormous mass growing from both sides of the pubes and ischium, extending downwards to the groin and inside of the thigh,

upwards to the pelvis and abdomen. The viscera were necessarily displaced, the bladder and internal organs of generation being pushed towards the left side; while the abdominal contents were thrust upwards against the diaphragm. The basis and centre of the mass were firm bone, and the growth at its origin was identified with the bone from which it proceeded. The exterior was of softer composition, and displayed a fibrous texture, more or less firm. On the surface this exhibited, in some situations, cells containing either serous fluid or grumous blood.

No disease was observed in the absorbent glands.

The thoracic viscera were healthy.

In its origin, and in the composition of its basis and interior, this tumour was an exostosis; in the rapidity of its growth, in the severe pain which accompanied it, and in the constitution of its exterior, the characters were those of a malignant growth. I have seen a somewhat similar combination of bony exerescence, with softer growth, the latter being in some parts nearly medullary consistence, and formed into cells containing bloody fluid, in the tibia, where, however, the disease was of long standing. The limb was amputated, and there was no reproduction of disease. Had the disease been seated in the tibia in the present instance, it would have been right to amputate.—*Lond. Med. Gaz.* Feb. 1839.

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7. *Hepatic Abscess opening into the Stomach by three perforations; also into the Pericardium.*—By R. J. Graves, M. D. "The following case contains many particulars of extreme interest, among which I beg to direct the reader's attention more especially to the physical phenomena produced by the simultaneous presence of air and fluid in the pericardial sac, no instance having been hitherto recorded where similar symptoms, arising from ulceration extended to that sac, have been observed.

"In order not to lengthen the case too much, I have omitted the details of treatment; they consisted of local depletion in the first instance by means of leeches, and an attempt to mercurialize the system, which attempt failed, because suppuration was in all probability established before it was made. My experience confirms the assertion made by Annesley and other writers on diseases of tropical climates, that it is impossible, or at least very difficult, to make the mouth sore to salivation, once the formation of abscess in the liver commences. Of course no practitioner who is aware that hepatic suppuration has actually set in will continue the exhibition of mercury; it then becomes injurious. In the following case, when suppuration was ascertained, poultices were applied, and various astringents were subsequently employed, in vain, to check the diarrhœa.

"Anne Walker, ætat. 25, spinster, of spare habit and nervous temperament, on Thursday night, 13th Sept., without any assignable cause, was seized with a sudden and violent pain in every part of the abdomen, extending to the loins and back, unpreceded and unaccompanied by any other complaint; was immediately bled, but without much relief; continuing in the same state, venesection was repeated the next morning with more effect; hot stupes were also applied. The entire of the 14th (yesterday) she remained in excruciating agony, applying the stupes, and obtained but little ease. She now lies on the back, with the legs drawn up towards the body, unable to turn to either side, or stir in the least in the bed, without an insupportable increase in her complaints: the pains she describes as of a lancinating nature, sometimes resembling the pricking of a number of pins, commencing at the epigastrium, shooting downwards to the pubes, and extending laterally into each hypochondriac and lumbar region.

"Since the commencement of the attack she has been deprived of sleep; much annoyed with constant thirst, and a nauseous, disagreeable taste in the mouth. Her countenance is now anxious and distressed; skin moist, and covered with slight perspiration; tongue white and moist; pulse 128, small and somewhat wiry; respiration 54; no morbid phenomenon can be detected in the chest; heart's action rapid, and sounds natural; the abdomen is tense, hard, and exquisitely painful, the slightest degree of pressure causing much uneasiness; bowels free; urine passed in regular quantities.

"In the right hypochondrium and epigastrium there is a considerable tumefaction, somewhat of a conical shape, affording, when pressed, a degree of elasticity and dulness on percussion; the pain produced in this part by pressure is very acute, whilst elsewhere it is comparatively slight.

"19*th.*—The only part of the abdomen pained by pressure is that where the tumefaction was observed yesterday; it extends from below the ensiform cartilage to within a couple of inches of the umbilicus, also laterally, occupying a space between three and four inches; and to-day a sensation of fluctuation is communicated to the touch.

"20*th.*—A violent purging commenced yesterday, and continued the entire night; stools numerous, eight or ten, liquid, and of a dark colour, each being attended with griping and kneading; was much troubled with shiverings and pains in the back; her breathing is more distressed, and accelerated, 44 in the minute; pulse 132, small and hard; tongue moist. No change has taken place in the appearances of the abdomen.

"24*th.*—There has been no return of the purging since the 21st; the perspirations are diminished, and her general aspect is improved; she now complains principally of pains in the back, continued and shooting upwards along the entire of the spinal column. When the tumour is now percussed, it emits a tympanitic resonance; the lower part of the left side also is very clear on percussion; cannot now detect the fluctuation observable on the 19th; the elasticity remains as before; pulse 116, soft and improved in strength; respiration 30.

"29*th.*—The tumour in epigastrium is considerably diminished in size, percussion elicits, as before, a tympanitic resonance, but does not extend, as on previous days, to the right hypochondrium; her countenance is improved, and spirits not so depressed; breathing continues too free, and pulse rapid.

"*Oct.* 1*st.*—Purging has returned, with griping pains in the abdomen, and numerous liquid stools.

"2*d.* Purging remains unchecked; the tumour in abdomen has altogether disappeared; no tympanitic resonance is now afforded by percussion.

"6*th.*—Heart's sounds natural. Percussion and respiration over both lungs as in the healthy state: abdomen sunken and free from pain.

"7*th.*—Bowels have been opened seven times within the last twelve hours. Pulse 120. Respiration 30.

"9*th.*—Was attacked yesterday with acute pain in the cardiac region, and last night had a violent beating of the heart, also a burning heat below the left breast. She cannot recollect any cause to which she might attribute this. Her present state is extreme emaciation and debility, cheeks hollow, eyes sunken, countenance dejected, and spirits languid; her breathing remains accelerated, short, and distressed; the jugular veins in the recumbent posture turgid, but without pulsation; likewise those along the trachea.

"Percussion over chest generally is clear, except at the inferior and middle portions of the left side. Respiration in these parts is feeble, elsewhere pure and loud; impulse of heart perceptible, but feeble. About half an inch distant from the lower edge of the mamma both sounds are confused, and a slight *bruit de soufflet* is audible; advancing to the right it increases in roughness, and below the mamma it becomes a complete creaking noise, accompanying both sounds of the heart, and is still louder between the sternum and breast; when pressure is applied it gradually increases these phenomena, and when considerable pressure is used, they are changed into a loud *frottement*, obscuring both sounds, the first especially; they are also rendered more distinct by holding the breath.

"Abdomen smaller; purging stopped; pulse 130, small and compressible.

"10*th.*—The phenomena are now audible as far as the middle of the sternum, over the cardiac region, and laterally, being in each place of the same character. The sound is between *bruit de soufflet* and *bruit de scie*, in a great measure masking the first sound and accompanying the second, which still retains its clearness. Immediately under the mamma, together with these sounds, but

heard only occasionally, is a peculiar metallic click, affording the idea of some fluid dropping in or about the pericardium; it is removed when pressure is made over the heart, whilst the other noises undergo a thorough change; thirst urgent.

"*12th.*—The irregular click, audible yesterday only at intervals, has now become a loud metallic ticking, audible at each stroke of the heart over those parts where the emphysematous crackling and other sounds were to be heard; it obscures all the phenomena hitherto noted, except a slight *bruit de soufflet* about the nipple of the left mamma. Impulse cannot be felt. Is sinking fast.

"*13th.*—Died last night at 10 o'clock.

"*Autopsy twelve hours after death.*—Percussion over the front of chest afforded no evident dulness; over the cardiac region it was clear. When the sternum was raised, both lungs were found collapsed; the left in particular, which was found compressed by a quart of sero-purulent fluid. Weak adhesions connected both lungs with the external pericardium; and their inferior lobes with the upper surface of the diaphragm. The pericardium appeared enlarged, and a small quantity of fluid could be felt.

"The abdominal parietes being removed, the cavity of a large abscess was exposed, situated in the left lobe of the liver. Its form was circular, about eight inches in circumference, and bounded anteriorly by a portion of the parietes of the abdomen and ensiform cartilage. Its posterior wall was formed by the remaining solid part of the left lobe; whilst the diaphragm superiorly was in immediate connection with it, and the falciform ligament served as a means of separation between it and the right lobe: its thin edge was over-lapped by a portion of the stomach; and near the pyloric orifice was an ulcerated circular hole, with rounded and smooth edges, about three-quarters of an inch in diameter, communicating directly with the abscess. The stomach was intimately connected with the sub-surface of the left lobe by its concave margin; and near to its cardiac extremity were two other openings, one somewhat oval in shape, about half an inch in diameter, and connected with the abscess by means of a canal capable of admitting the tip of the little finger, and separated from the other by a thick band, evidently a portion of the stomach. This last perforation, or the one nearest the œsophageal extremity of the stomach, had no communication with the abscess. The surface of the abscess is irregular, presenting many depressions and elevations; its colour of a yellowish gray, its substance creamy, soft, and reduced by pressure into a pus-like fluid; when cut into, it is at least three quarters of an inch in depth, but does not retain the same thickness in every part; beneath, the structure of the liver is visible, and in firm connection with it the stratum of diseased substance, neither can it be separated from it.

"Where the diaphragm and pericardium are united, is a perforation sufficiently large to admit the middle or ring finger, and opening directly from the abscess into the pericardium; the edges are ulcerated and uneven; and within the covering of the heart are about two ounces of yellow coloured fluid mixed with flakes of lymph. The pericardial sac is increased to four times its natural thickness, but appears equally dense in all parts; its external surface is highly vascular; its interior is likewise inflamed, dotted with numerous red spots, in some parts about the size of a pin's head, and in others forming an arborescent appearance; the surface has in a great measure lost its natural glistening appearance, and looks uneven, being coated in parts with small portions of organized lymph; and generally, particularly towards the origins of the great vessels, with small, granular, semi-transparent bodies, resembling millet seeds, or the eruption sometimes seen in cases of rheumatic fever: its feel is quite gritty, but when these bodies are scraped off, the serous lining of the pericardia is apparent underneath.

"The heart itself is of a light red colour, and its investing membrane is covered, like the pericardial sac, with those granular substances more abundant about the auricles and base of the heart. Both auricles are bound down to the

substance of the heart, by means of strong, tough, and organized pieces of lymph.

"Some tubercles scattered through the superior lobe of each lung. No adhesions existed between the peritoneum and intestines, or between these latter.

"I am indebted to my talented and indefatigable clinical clerk, Mr. Thomas Moore for the preceding report of the progress of this singular case, concerning which the following remarks appear necessary:—

"1st. When the abscess burst into the stomach, the epigastric tumour which the abscess formed did not at once subside, but suddenly, from having yielded a dull sound on percussion, became tympanitic and clear; air from the stomach having found its way into the cavity, while the pus escaped.

"2dly. The now tympanitic tumour seemed so exactly to resemble the stomach distended with air, that we were induced to pass a tube into the stomach, but it did not give vent to any air.

"3rdly. In a few days the air also passed from the cavity of the sac; then all traces of the tumour entirely and unaccountably disappeared.

"4thly. The diarrhœa was caused by the perpetual flow of fœtid and irritating matter from the abscess into the intestinal cavity.

"5thly. No peculiar symptom, pain, or derangement of its functions, denoted the extensive ulceration of the stomach.

"6thly. The inflammation spread by continuity of structure, from the abscess to the pleura and pericardium in the first instance.

"7thly. Soon after the paricarditis thus formed had commenced, and at the time that its usual physical phenomena were clearly perceived, a new set of physical phenomena arose, dating from the moment the pericardium was perforated, and air entered its sac.

"8thly. Although symptoms of most intense peritonitis existed when the patient was admitted, yet no traces of general peritoneal inflammation were discovered on dissection.

"9thly. It may be asked, why I had not recourse to an operation to let out the matter, as soon as fluctuation had become plainly perceptible in the hepatic tumour? My answer is, that the tumour formed so quickly, and seemed to tend to the surface so rapidly, that I thought it better to wait for a day or two, in order to render the operation safer, never anticipating that the matter could, in so short a time, find an exit by another channel."

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8. *Silver Spoon swallowed, afterwards discharged through an abscess in the epigastrium.*—A man in a fit of insanity swallowed a silver teaspoon. Nearly a year afterwards, an abscess formed in the epigastrium, and through this the spoon was discharged. The wound healed perfectly. *Rev. Méd.*, March 1838, and *Zeitschrift fur die gesam. Med.*

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MATERIA MEDICA AND GENERAL THERAPEUTICS.

9. *Kermes Mineral as an emetic and purgative.*—The *Gazette Médicale de Paris* Nov. 17, 1838, contains an account by Dr. Toulmouche of Rennes, of some clinical experiments instituted for determining the emetic and purgative powers of the Kermes mineral. The conclusions of Dr. T. from his numerous experiments are 1. that the Kermes acts with more certainty as an emetic in the dose of from two to three grains than in that of four or five; 2. that it more frequently purges than vomits; 3. that its emetic action is uncertain, occurring in rather less than half the cases; and finally, that it may be given with impunity except in acute rheumatism, and pneumonia in very large doses; and that its emetic and purgative action seems to diminish with the increase of the dose.

10. *Method of determining the genuineness of Ergot.*—Mr. T. H. Wardleworth states that his experience leads him to consider the following appearances as indicative of the genuineness of Ergot.—If some of this substance in powder be put into a small vessel, (a cup for instance,) and about one ounce of boiling water be poured upon it, the vessel immediately covered and kept so for some seconds, the Ergot should remain totally insoluble, and the infusion should assume a deep pink colour. On the contrary if small portions of the Ergot be seen floating on the surface of the water, and the infusion presents a milky appearance, then the action of the remedy cannot be depended on. Mr. W. has never known it, when given under such circumstances, to produce the least increase of uterine action, but invariably to be followed by more or less of a feeling of sinking at the pit of the stomach attended with irregularity of the heart's action and total cessation of pain.—*Lancet*, Nov. 10th, 1838.

11. *Medical Properties of Zinc.*—By G. G. Sigmond M.D. Zinc and its chemical preparations, though employed from an early period as medicinal agents, possess many deleterious properties which render them objects of some attention during their administration, and they require to be used both internally and externally with a due degree of caution.

The sulphate of zinc has some claim to our attention as a tonic, but more as an emetic, and also as an application to the surface of the body in states of superficial inflammation. As a tonic from one to three grains may very properly be given in the course of the day; from one to twenty grains where its emetic powers is to be obtained, and it very speedily operates; a larger dose may not prove so injurious as an intermediate dose; in one instance a young lady accidentally swallowed two ounces of white vitriol in solution, the consequences were immediately visible. The countenance became pallid, the extremities cold, the eyes of a heavy dull appearance, whilst the pulse fluttered; an acute pain in the region of the stomach, accompanied with a sensation of burning, came on, violent vomiting supervened; potassa was given in syrup, the pain gradually ceased, as did the vomiting, and a complete recovery took place; on the other hand Foderé relates that which occurred to one of his patients, a custom-house officer, who obtained from a druggist six grains of sulphate of zinc, with which he proposed to cure a gonorrhœa under which he was at that time labouring, he was attacked with inflammation of the lower belly, attended by retraction of the navel, and with severe colic, which yielded only to repeated abstraction of blood, both local and general, to oleaginous emollients, and to the warm bath.

The very large doses that have been given in epilepsy without producing any mischievous effects have been ascribed to the insensibility of the stomach, which it would appear occasionally supervenes in that disease, and the same torpor has prevented the emetic effect of very large doses of the sulphate of zinc, where some of the most energetic of the narcotic poisons have been taken; it, however, has been always considered the most useful of the emetics where an immediate emergency has demanded an active agent of this character, and it has obtained the reputation of being the mildest of the metallic salts which provoke this effect on the stomach.

Where epilepsy occurs early in life, and where there is reason to believe, from the sickness, the nausea, the flatulence, the state of the bowels, and the loss of appetite, that it is dependent upon disordered digestion, and that there is not direct pressure upon the brain, an emetic of sulphate of zinc is frequently to be repeated. Dr. Clarke, to whom we are so much indebted for a proper knowledge of the treatment of the diseases of children, gives his recommendation to administer an emetic of sulphate of zinc in an aqueous infusion of ipecacuanha, and to repeat it in six or eight or, ten days, according to circumstances. To a child of four years of age he has given six grains of the sulphate of zinc in half an ounce of an infusion of fifteen grains of ipecacuanha in an ounce of boiling water. In a child of two years old the dose will range from one to three grains of white oxide of zinc; from one to six grains, where it is not intended to produce nausea and vomiting, but simply to produce the tonic effect which the metal

is capable of doing. To adults, in chronic epilepsy of long standing have been given with very great success emetics of sulphate of zinc, at first once in the week, then every fortnight, and gradually less frequently, until the paroxysms have disappeared.

A curious case occurred at the *North London Hospital;* a female (one account states her to be nineteen, another twenty-nine) was subject to epileptic fits, which occurred almost every day for six months before she was admitted into the hospital. She began with two grains of sulphate of zinc three times a day; this produced a marked alteration in the fits. they were of shorter duration, but an uncontrollable laughter and perpetual merriment were produced; the dose was increased on the third day to four grains; on the sixth day to six grains; and at last, between the 19th of March, and the 12th of April, to fourteen grains, three times a day, when symptoms of gastritis were produced, which being relieved, the medicine was again employed, but then five-grain doses could only be taken any quantity beyond that being injurious to her stomach. During her submission to this treatment, it would appear that it had the most singular effect, that of intoxicating her; the ultimate advantages or disadvantages of these large doses, and of the sequela of the case we unfortunately could not become acquainted with, for the misconduct of the girl caused her to be dismissed from the hospital.

Both the sulphate and the oxide of zinc have been very successfully given in chorea, and many very distinguished medical men have, at various periods, called our attention to them. At the *Bristol Dispensary* Mr. Bedingfield tells us, some years ago, that out of forty cases that presented themselves, thirty-nine were cured by the oxide of zinc, given in five grain doses, three times a day, gradually increasing the quantity to a scruple; probably the conclusion he drew was such that cannot be assented to by all who have since had opportunities of giving it a full and impartial trial; for he has said "so speedily and decidedly did this remedy put a stop to the disease, that I cannot avoid regarding it as a specific for it." Chorea occurs under so many extraordinary forms, and is excited by such a variety of causes, where there is any predisposition to it, that no one remedy can be declared to be decidedly useful. This disease appears to occur very frequently in this country, or at least it is often developed at a later period of life in females than formerly seems to have been thought. I have lately seen some cases of it, to which the name of hysteria has been very injudiciously given, as it has led to erroneous treatment.

Where chorea exists you will find the oxide of zinc, and the sulphate highly serviceable, and where the disease is periodic they may be given at the same time with quinine, and with cinchona, with the utmost benefit. Out of nine cases, five boys and four girls, seven were cured by zinc; where the disease, however, arises from morbid derangements of the brain, where there is a tendency to hydrocephalic action, where any external injury has given rise to the disease, it fails of producing any beneficial influence. In pure hysteria it is hurtful, generally injuring the tone of the stomach, producing nausea, a constant tendency to vomit, and an increase of the malady.

The preparations of zinc have met with advocates in the treatment of intermittent fever; and in various periodic affections zinc seems to approximate to iron in many of its characteristics. It has been employed for hooping-cough, and likewise for phthisis, but it has not gained any very great reputation as a curative agent in these diseases; it has, however, been found to restrain various of of the hæmorrhages, and more particularly the sulphate of zinc has been used for hæmoptysis, and for menorrhagia; in these states it has been usual to give doses of a half to one grain every two hours until a nauseating influence is produced on the stomach, when it is to be discontinued, but again employed if bleeding should recommence. It has been combined with digitalis, with conium, and with opium, and administered in the form of pills, made with conserve of roses, or dissolved in water. It has also been strongly recommended in dysentery.

The external application of the sulphate of zinc has many claims to our no-

tice; the only case of its proving fatal, when thus used, is related in Pyl's Memoirs. The sulphate of zinc was used as a lotion for an affection of the scalp, a scaly eruption; the patient was a child in good health, of the age of six. A lotion, which was a vinous infusion, had not long been applied, before a burning acute pain came on in the head, death took place in five hours; previous to which, violent vomiting, purging, and severe convulsions were present; an apoplectic condition of the brain was found on examination after death. It appears that the philosopher's wool, or flowers of zinc, is not altogether free from danger; for the apprentice of an apothecary employed in preparing some, filled the laboratory with the smoke. He was seized with tightness in the chest; and with vertigo; the following day he had vomiting and violent cough, together with a sensation of stiffness in the limbs; the third day the vertigo had very much increased, so that he could scarcely stand; he was affected, too, with some degree of salivation, and complained of a coppery taste in his mouth; the bowels were severely griped; it was three weeks before he thoroughly recovered, after having been actively purged, and having gone through a fever.

In some diseases of the skin, the local application of zinc has been found very serviceable, more particularly where internal medicines have been employed, and the constitution is but little affected in any way, where there is a chronic state of debility of the dermoid coverings, but it should be aqueous solutions that are to be employed; for in the greater number of instances in which it is mixed up with fatty matter, and used as an ointment, it does more harm than good; indeed, the greater number of the metallic salts are much less useful when the application is made in the form of ointment, The skin in long-standing cutaneous affections, will seldom improve from greasy substances; and, indeed, sometimes, when, on the first appearance of a papular eruption, this sort of remedy has been used, the disease has become aggravated; simple solution of sulphate of zinc, in distilled water, in the dose of a grain to one ounce, will often arrest a local inflammation on the surface, and act as a powerful astringent; nor does it possess any sedative quality. It is a very common and a very useful ingredient in the different applications made to the eye to reduce the slighter inflammations to which that organ is often liable.

Its action upon mucous membranes generally is of great importance; it restrains too copious a secretion from them; allays any irritation that may be present; and has a very remarkable influence upon these tissues when they are in a state either of acute or of chronic inflammation; hence its employment with so much success in gonorrhœa and in leucorrhœa, in the form of injection, and on which I shall hereafter have occasion to dilate. In particular stages of these diseases it is the most valuable remedy we possess, and can, with certain precautions, be prescribed with the utmost certainty.—*Lancet*, March 17, 1838.

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12. *On the Properties and Therapeutic powers of Camphor.*—By G. G. Sigmond, M. D. Camphor produces several very extraordinary phenomena on the human body. Mr. Alexander made some very curious experiments upon himself with this substance. Having ascertained that no ill effects were produced upon him by swallowing a scruple, he took no less than two, mixed with syrup of roses, in a single dose; before twenty minutes had elapsed, languor and listlessness occurred; then giddiness, confusion of ideas, and forgetfulness; all objects appeared to move before him, and a singular state of mind, terminating in unconsciousness; during this he was attacked by strong convulsions and frenzy. Dr. Monro was called in, and by accident ascertained what had been taken; he immediately gave an emetic, which brought away almost the whole of the camphor that three hours before had been swallowed. Some time elapsed before the mind altogether recovered its wonted state of tranquillity.

Professor Wendt relates an instance of a drunkard, who took no less than four ounces of camphorated spirit, or a hundred and sixty grains, which had been intended as an embrocation; his symptoms were very violent, but he recovered, from the use of almond oil and vinegar, and there was no attempt at vomiting; and Hoffman gives us the case of a man who had swallowed by accident

two scruples of camphor, dissolved in olive oil, which brought on delirium, vertigo, diminution of animal heat, somnolency, to which succeeded increase of heat, accelerated circulation, and red-coloured urine; he gradually recovered. Different have been the opinions as to its power: Cullen calls it a sedative, Bergouzi a stimulant, and Coruzzi a counter-stimulant. Hoffman endeavoured to introduce camphor into general practice, and wrote "Dissertatio Medica de usu Camphoræ interno Securissimo et Præstantissimo," which first attracted the attention of the profession; for, although previously there had been some physicians who had prescribed it, camphor was by no means a favourite; it was "a cold medicine, and rejected," as Dr. Lyons tells us, "upon that account, but more especially, as it was thought, to extinguish all inclination or aptitude for love."

It was in fever of a malignant character, that in the quantity of ten or twelve grains on the eighth, ninth, and eleventh day, to patients labouring under delirium, fluxes, hæmorrhage, petechiæ, that it was most successful, according to Riverius; and Hoffman gave it at the very onset of fever. It has since been used, with great success, in fevers of the typhoid kind, in the dose from two to fifteen grains; it has been also given in the different exanthemata, when they have appeared in their worst forms.

Avenbrugger, to whom we are so much indebted for the hints given us, which have led the way to the diagnosis of thoracic disease, published his "Observations on the Specific Powers of Camphor in the Cure of Mania," in the year 1776. Dr. Kenner, in the "Philosophical Transactions," mentions four cases of cure of insanity, effected by means of this drug. Fodère speaks of it as quieting the nervous system, and unites it with bark; there have been others who have denied its possession of any power over mania; amongst these Dr. Ferriar and Dr. Laughar. Still, previous to the paroxysm of mania, when the premonitory symptoms announce the accession of violence, camphor should invariably be administered, and from twenty-four to forty-eight grains in the course of the day, may be safely used. It has been recommended in hysteria and epilepsy; but there ought to be great hesitation, as little doubt exists that it has produced the last of these diseases. In 1814, a dissertation on this subject was read before the Faculty at Paris, and epilepsy was attributed to the use of this remedy. In such cases, it is evident that previous evacuations are necessary, and it has been generally observed, that where constipation is present camphor is rather prejudicial than otherwise. Dr. Lyons always recommended after evacuation ten grains of nitre in combination with camphor, and as it produces thirst a quantity of some diluent drink afterwards, and he speaks of it as a remedy, then, of the greatest value.

In puerperal mania camphor has been largely and successfully employed; and Professor Berndt has recommended it in large doses; he found such decided benefit from it, after many fruitless attempts to combat the disease by antiphlogistics, ether, stimulants, and other remedies, that he was induced to consider it as a real specific; he, however, recommends the application of leeches to the head, and also to the inside of the thighs, in cases complicated with congestion, and in plethoric constitutions. In gout and in rheumatism this remedy has obtained some degree of reputation; and more lately, in France, it has been tried in these diseases in the form of vapour. M. Delormel and M. Dupasquier have published, in the French journals, the results of their experience. One of the most useful alleviators of pain during menstruation is camphor, triturated with sugar; and in the dose of ten grains in the course of the day, it allays that high degree of suffering to which some females are subject during the periodical excretion. It has some claims to our considerations in various affections of the mucous surfaces in which catarrhal discharges occur.

The camphor mixture of our Pharmacopœia is one of the most serviceable vehicles we possess for the administration of a great number of the most active remedies, which it renders less likely to be the cause of irritation, from its gentle sedative influence. Although the quantity of the drug that is contained is very small, it produces a very marked impression upon the nervous system; and,

while it corrects the too energetic action of a number of our therapeutic agents, it assists others; thus it increases the action of the infusion of senna and of rhubarb, the decoction of aloes and of taraxacum, while it moderates the action of the infusion of digitalis, or of tobacco. It is of infinite importance where medicines are to act upon the kidneys, or upon the urethra; hence, where the infusion of buchu, preparations of squills, of copaiba, or of turpentine, are to be used, it is to be prescribed. The greater number of the diffusible stimuli, too, are heightened by it; thus, combined with the liquor acetatis ammoniæ, with the compound spirits of lavender, with nitrous ether, it assists, corrects, and improves them.

Our camphor mixture is formed of half a drachm of camphor, rectified spirit, ten minims, and of water a pint; rub the camphor first with the spirit, then add the water gradually, and strain through linen; although the whole of the camphor is not taken up, yet there is the aromatic odour, the taste given to the water, and quite as much of its medicinal power as is necessary. Of this most valuable mixture two ounces may be given every three or four hours. The old camphor julep, the favourite remedy of every Lady Bountiful, for every disease in her parish, was thus made of camphor, one drachm, of the finest sugar, half an ounce, boiling water, one pint; grind the camphor first with a little rectified spirit of wine, till it become soft, and then with the sugar till it be perfectly mixed; afterwards add the water by degrees, and filter in a close vessel; if the composition be rubbed with twice its weight of gum arabic, it mixes well with the water. The emulsio camphoræ of the Edinburgh Pharmacopœia, supplies the place of this formula:—Take of camphor, a scruple, sweet almonds blanched, refined sugar, each half an ounce, water, a pint and a half, and make it in the same manner as the common almond emulsion.

These are of use when blisters are applied; they prevent irritation in the urinary passages. Though doses of camphor have been known to produce strangury, of which Heberden quotes two examples; these have been said to have the power of preventing the contagion of small-pox, of reproducing eruptions that have been repelled, of preventing the narcotic influence of opium; and all these preparations of camphor have their great admirers. Some medical men declare the common camphor mixture to be the only vehicle in which medicines that are to act as diaphoretics can, with a firm reliance on their action, be administered, without, from long continuance, a diminution of their efficacy.

The compound tincture of camphor is a useful anodyne, a fluid ounce containing nearly two grains of opium; it is the old paregoric elixir, and is formed of two scruples and a half of camphor, of powdered opium, and benzoic acid, each seventy-two grains; oil of aniseed, a fluid drachm, proof spirit, two pints; these ingredients are macerated together for fourteen days, and then strained, and the dose may be one or two drachms. The tincture of camphor is rarely used, and then only externally, to excite the cutaneous vessels into action where they have been long torpid; it is hence used occasionally to chilblains, more especially when the itching is very severe; in chronic rheumatism, in slight indurations around the joints, in local swellings, in numbness, in paralysis, it has been sometimes used. It is made of five ounces of camphor and two pints of rectified spirits; these are mixed, that the camphor may be dissolved. Whatever may be the difference of opinion as to the nature of the action of this substance, when it is internally administered, there seems to be but one judgment formed of its very great utility as an external application, and it has some discutient as well as anodyne powers, and liniments formed from it are amongst the most popular remedies we possess; dissolved in oil, in alcohol, or acetic acid, it is used for a vast variety of purposes, for bruises, for inflammation, for chronic rheumatism, for indolent swellings, for infiltrations into the cellular substance; it is employed in poultices for dysentery, for flatulent colic, for chronic indurations of the liver: in the last disease, Maldonade has found it singularly serviceable. It has been employed with much success in promoting the secretion of milk after delivery; and a small bag, containing camphor, placed between the mammæ a few hours after the event, has been the practice pursued in France, on the recom-

mendation of M. Dalle. The camphor liniment of London is formed of half an ounce of camphor dissolved in two fluid ounces of olive oil. This, with the addition of half an ounce of the solution of sesquicarbonate of potash, it appears, was recommended by Mr. Ware to be applied to the eyelids night and morning in incipient amaurosis. The compound camphor liniment is thus made:—Take of camphor two ounces and a half, solution of ammonia, seven fluid ounces and a half, spirit of lavender, a pint; mix the solution of ammonia with the spirit; then, from a glass retort, by a gentle heat, distil a pint; lastly, in this dissolve the camphor.

As an enema for worms, and for affections of the rectum, it has been used, but requires to be prescribed with much caution. Heberden mentions that thus administered it brought on pains resembling labour in a female; and I have mentioned to you the case of Dr. Edwards. Very shortly after the exhibition in this form, the taste is decidedly camphorous, and the breath exhales the characteristic odour, showing the rapidity of the imbibition and circulation throughout the whole of the system. It likewise may produce strangury in this form, as well as in others. It is a singular fact, that it both produces and relieves this disorder.—*Lancet*, May 5th, 1838.

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13. *Value of Creosote as compared with other remedies.*—There is an interesting paper on this subject by Dr. Da Luz in the *Journal da Sociedade das Sciencias Medicas de Lesboa*. The following are the author's conclusions deduced from his experiments:—

1. In indolent eruptions, not very extensively diffused, creosote is not more efficacious than other remedies.

2. The long continued use of this remedy often causes an inflammatory condition, which, however, has nothing in common with that of the disease which is to be cured.

3. In itch, creosote is as efficacious as sulphur, tar, and common oil.

4. In tinea it is not more powerful than the preparations of sulphur and emollient remedies in certain cases, and depilation practised according to Mahon's method.

5. It is an excellent cleansing remedy in atonic ulcers, but its prolonged use hinders cicatrization.

6. In hospital gangrene it is the best antiseptic, and the most powerful means of checking this frightful complication of wounds and ulcers.

7. Those condylomata, which are neither cured by emollient and tonic remedies, nor by solution of corrosive sublimate, are not cured by creosote.

8. Creosote has no marked influence on the secretion of pus, and therefore is useless in suppurating abscesses.

9. It has no power against caries.

10. It is an excellent styptic in capillary hæmorrhage; but in hæmorrhage from great vessels, particularly when it proceeds from suppuration of the arterial coats, it does not prevent a recurrence of the bleeding.—*London Med. Gaz.* January 1838, from *Zeitsch. für. g. M.* September, October, 1838.

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SPECIAL PATHOLOGY AND SPECIAL THERAPEUTICS.

14. *Treatment of Irritation of the Stomach.*—The following remarks on this subject by Jonathan Osborne, M. D. of Dublin, are worthy of attention: "The treatment of both acute and chronic irritation of the stomach, is to be directed, 1st, To the removal of its local causes, by the substitution of an appropriate diet, and 2ndly, To calming the irritation already existing. The latter is affected by, 1st, Dilution of the contents of the stomach; 2ndly, Diminution of its sensibility, by the agency of cold or heat; 3rdly, The use of astringents in sedative doses, as acetate of lead, sulphate of lime, nitrate of silver, lime-water; 4thly,

Stimulating the circulation of the skin by means of external irritants, bathing, frictions, and exercise; 5thly, Stimulating the circulation of the pulmonary surfaces by changes of air; 6thly, Stimulating the nervous system by mental exhilaration.

1. "*The removal of the local causes, by the substitution of an appropriate Diet.*—When the mucous surface is irritated, it must be looked upon as in the same condition as an irritated portion of skin, with regard to topical applications; and those substances which are most appeasing to the latter in the form of poultices, are also to the former, as articles of diet. The food then should be vegetable, and consist chiefly of amylaceous substances, as rice well boiled, arrow-root, &c., stirabout taken in moderate quantity, with milk diluted. It is, however, to be observed, that stirabout lies under the imputation of causing heat and itching of the skin, and justly so, those affections being peculiarly prevalent where oatmeal is much used. It is to be ascribed to a resinous matter, in the covering of the grain, soluble in alcohol, which has been ascertained to produce this effect on the skin. When meats are taken, they should be such as are most free from osmazome, as chickens, rabbits, sheeps-trotters, &c., and should always be accompanied by boiled rice or other vegetable matter, in order to diminish the stimulating effect. Of all animal substances, that which appears not only to have no stimulating effect, but actually to appease the stomach, is the yolk of eggs. I was informed some years ago, by Mr. Daniel Moore, of the case of a lady labouring under pertinacious vomiting, which he completely cured by frequently repeated spoonfuls of raw yolk of egg, although it had been previously treated ineffectually, by a variety of the most approved remedies. Amongst the cases attached to this communication, will be found an instance of vomiting from a congested state of the stomach, in the last stage of diseased mitral valve, in which a similar success attended its employment. I could have added several others, and my failures with it have been principally in hysterical cases, in which, perhaps, it is too disagreeable and disgusting, to be retained sufficiently long to exercise its soothing properties. Eggs, in the form of light made custard-pudding, are commendable; but having mentioned puddings, it must be remembered, that all combinations of flour and butter, in which the latter has to be subjected to heat, and then to be rendered rancid, are not only indigestible, and thus apt to provoke a large secretion of sour fluids from the gastric glands, but are also in a high degree irritating to the mucous membrane. Such are various kinds of pastry, and to these may be added, the rancid oily nuts.

"The articles to be avoided in these cases are, salt and sugar in their various combinations. Even tea should be taken without sugar. In short, let the patient suppose at each meal, that he is going to apply a poultice to the interior of his stomach, and he will not go far astray. Let him also not overload, but eat slowly, and about four times in the day, because mere weight acts as a mechanical irritant, and is felt as a 'load in the stomach.' A habit of eating quickly, is productive of over-eating, hence slow mastication must be strongly insisted on, and in case of defective teeth, the food must be taken still more slowly, and in a comminuted form. These observations appear trifling, but when we reflect, that the food has to come into actual contact with the irritable surface, it cannot but be deemed of the highest importance that it should be presented in the least irritating form. In the whole series of stomach complaints, the physician must have the direction of every thing which goes into the stomach, whether as food or medicine; and to be of real use to his patient, he must be no less skilled in cookery than pharmacy.

2. "*Dilution of the Contents of the Stomach.*—The effect of water taken into the stomach, is to diminish the irritation of its contents by diluting them. Hence, it is the usual custom to drink towards the conclusion of a meal. Another use of dilution, and that which renders it a medicine, is to dissolve the mucus, and thus to render the membrane accessible to astringent remedies. This effect is best obtained by exercising after drinking largely of warm water. The mucus is thus mixed up and dislodged. According to my view, this mode of action explains the efficacy of mineral waters in irritability and chronic inflammation

of the stomach. When an invalid, at one of the German Spas drinks six or eight beakers of the water before breakfast, and walks in the intervals, he washes out the mucus, (as I have proved can be done in the dead stomach,) and thus the small proportion of salts held in solution, acts on the membrane as sedative and astringent. This view has to me been confirmed by experience; as I find that by administering one or more tumblers of warm water in the morning, then, after exercise, giving the sedative astringents to be hereafter mentioned, the most striking results can be obtained, and such as are usually only witnessed during a course of mineral waters.

"Another kind of dilution, is to mix mild along with stimulating articles of diet. This is practised at our daily meals, when we use bread or vegetables in alternate mouthfuls, with meats or seasoned dishes. An experienced gourmand at a feast, will even venture to take things which he knows to disagree with each other, if he has access to good stale bread, as by taking a quantity of this, he is enabled to interpose such a substratum, as shall prevent them from coming into immediate contact.

3. "*The use of Astringents in sedative doses, as Acetate of Lead, Sulphate of Zinc, Nitrate of Silver, Lime-Water.*—I merely state a fact, and am not proposing a theory in describing astringents as a sedative to the mucous membrane when applied in small doses. Let this be judged of by the effects produced, which are diminution of redness, of heat, and of sensibility. Such effects are well exhibited in the most approved applications to the conjunctiva of the eye, and in gargles and lotions injected into the urethra. When the same substances, however, are applied in an undiluted form, then chemical decomposition and destruction of the membrane ensues. Seeing then the importance of attending to doses in these cases, I shall state here, the forms in which I am in the habit of prescribing those substances. They are as follows:—℞. super acetat. Plumbi, gr. xij; Aceti ʒss; Aq. destil. ℥viij. M. Sum. coch. ij. ampla mane et meridie.

"To the above mixture, an addition may be made of half a grain of acetate of morphine, in case of general restlessness, or in case of the mucous irritation being excited or aggravated by excessive secretion of sour fluid from the gastric glands. In order to give the above and the two following formulæ their full effect, the patient should drink a large tumbler of tepid water on an empty stomach, and use a little gentle exercise before taking the medicine. As for the danger to be apprehended from the preparation of lead taken in this way, I can state, that although now for years in the daily practice of writing the above prescription, I have never seen one instance of either colic or paralysis resulting therefrom.

"The acetate of lead formulæ, I use in the earliest and more acute cases. Next in point of astringency, and more applicable to chronic cases, is the following:—℞. sulphat. zinci gr. iv; aqua destillat. ℥ij. M. Sumat coch. ij. ampla post aquæ calefactæ amphorum vacuo ventriculo mane et meridie.

"The last of these formulæ, and that most to be depended on in chronic cases, which has also the advantage of being well suited to the cases of ulceration of the stomach described in my former paper, is the following:—℞. Nit. argenti gr. ij; Sacchr. alb. gr. iv. M. Ft. pil. viij. Sumat j. mane et meridie. With the same directions as the two former.

"The success obtained in hysterical and convulsive affections by nitrate of silver, appears to me, to be derived from its astringent and sedative effect on the mucous membrane of the stomach. It being decomposed very shortly after its arrival there, by the free muriatic acid, and by the muriate of soda, causes it to change its properties before it descends into the bowels, where it may eventually prove a laxative. Both in chronic irritation and inflammation of the stomach, it is an heroic remedy, the effects of which, only require to be aided by a judicious attention to diet and the management of the bowels, in order to inspire the patient with the highest degree of confidence in the resources of the medical art. The discoloration of the skin, which causes female patients to regard the internal use of nitrate of silver with great apprehension, I have never yet witnessed in

any of my patients. The above mentioned dose, from being speedily decomposed, appears to act merely as a topical application to the stomach, and as I am not in the habit of continuing the use of it longer than a week at a time, the absorption of it in an undecomposed form, and consequent deposition of silver at the skin, appears next to impossible.

"The last article mentioned, is lime-water. This is to be taken abundantly as a drink, and mixed with milk or barley-water. I might also have included the decoction of catechu and of log-wood, the latter especially, as being an agreeable drink; but I have preferred to mention only those articles which manifold experience has stamped with a peculiar value in my treatment of this complaint, and leave to the judicious reader to supply the rest, by always bearing in mind, that irritable or inflamed surfaces in the interior, resemble those in the exterior with regard to those substances which come in contact with them.

"The fourth, fifth, and sixth heads, embrace matters of the utmost importance, and without which, all others will prove ineffectual in this complaint. Without exercise in the open air, I have rarely seen permanent benefit obtained, and even at the risk of cold and damp weather, the patient must go out every day. Under stimulation of the skin, is to be placed an application to which I attach a high value, namely, that of mustard to the region of the stomach. The flour of mustard simply mixed up with water, applied on a cloth over the stomach every evening, and suffered to remain on until smarting is produced, is a powerful adjuvant, and interferes with no other remedy. It also gives a temporary relief from the pain coming on after dinner, and is generally most acceptable to the patient; it requires no dressing except dry lint or wadding. On the head of mental exhilaration much might be said. Here the *medicina mentis* becomes a most powerful auxiliary. Many physicians know no other remedy of this kind but to send the patient to travel, forgetting how often it proves true, that *cœlum non animum mutant qui trans mare currunt*, and that in the stores of the imagination, even when remaining at home, there are many resources by which a healthy interest in life may be excited, alternate employment and relaxation provided, and hopes and expectations for the future enlivened. Of such importance is this, that the patient will not only imagine, but will, at least for a time, actually derive more benefit from a practitioner of high repute, whose words sound like oracles, than from one of inferior eminence, although the prescriptions of both may be the same."—*Dub. Jour. Med. Sci.* Jan. 1839.

15. *Neuralgia of the Testicle.*—This is fortunately a rare disease, for it is one of the most painful ones to which man is subject, and often a very intractable one. Dr. Graves, in the *Dublin Journal* for January last, mentions two cases. The first occurred in a young gentleman of highly irritable nerves, who had studied hard and dissipated much. The paroxysms of pain did not observe any marked period, but returned daily at uncertain intervals, which grew shorter and shorter, until at last he had scarcely any respite day or night. There was no fever and not the slightest appearance of local congestion or inflammation. This case yielded to large doses of carbonate of iron freshly prepared, and frequent inunction of the testicle and cord with belladonna ointment.

The second case occurred in a gentleman who laboured under neuralgic pains decidedly of a gouty nature. In him the pain of the cord and testicles used to come on every afternoon about four o'clock, and continued for several hours. The pain was at times very severe. This neuralgia of the testicle disappeared after a few days, and was replaced by a violent gouty pain in the loins and right hypochondrium. The latter yielded to the usual local treatment and the use of colchicum internally.

16. *Method of preparing Sinapisms for the purpose of withdrawing Gout from the vital organs to the extremities.*—Dr. Graves says that the sinapisms usually employed for inviting gout from vital organs to the extremities, act too quickly to be long borne; and of course only give rise to very superficial inflammation, and that of very brief duration. To fix gout in a part, *e. g.*, the foot, he adds,

our application must act much more gradually, and must excite the deeper seated tissues. These objects may be obtained, he states, by mixing one part of strong and fresh ground mustard powder with three of flour, and adding as much treacle as will convert them into a viscid paste, which may be spread like a plaster on linen, and applied to the part. This will be borne for four or six hours, and will cause a redness which will last a whole day. The proportion of flour may vary according to circumstances.—*Dublin Journal of Medical Sciences*, January 1839.

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17. *Treatment of Permanent Hypertrophy of the Tonsils.* Dr. Graves considers the best remedy for this affection, to be the nitrate of silver, and he prefers Mr. Cusack's method of applying it which is as follows: "The solid stick of lunar caustic, or some of the latter in powder, and placed in a proper instrument, must be kept steadily pressed against a particular spot of the enlarged gland; two, three or five seconds will suffice to secure the formation of a small eschar, which falling out, will leave in the part, when healed, a slight depression like the largest pit formed by a small-pox pustule. When this has been effected, which is usually in about five days, a similar proceeding must take place with the other amygdalæ; and so on in each, turn about, until the desired reduction of size has been accomplished." Dr. Graves prefers this method, to the use of the ligature or to excision. When the glands are large, he says, this process usually requires about six months; it is slow but sure; and must be intermitted when any accident gives rise to temporary sore throat or catarrh.—*Dublin Journal of Medical Sciences*, January, 1839.

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18. *Spasm of the Glottis or Laryngeal Asthma.*—The following case of this complaint, recorded in the *Lancet*, (April 21, 1838,) by Dr. T. H. Burgess, is worthy of attentive perusal. It furnishes important materials towards a better understanding of a disease of great importance and of more frequent occurrence than is generally supposed.

"Julia M. an infant between six and seven months of age, of an active constitution and nervous temperament, and born of parents similarly constituted, was attacked with that disease peculiar to infants, and variously designated by authors—Millar's asthma, crowing inspiration, spasmodic croup, &c. &c., in January last, to such a degree, as to threaten immediate suffocation.

"The infant, from its birth up to the accession of this disease, enjoyed perfect health; but it was observed from its earliest infancy to catch, or rather hold its breath, when crying, which was attributed by the nurse to passion. However, this symptom was not paid any attention to, and appeared in the nurse's eyes of no importance whatsoever, for when the child's health was inquired after, the nurse usually observed, that she was remarkably well in every respect, but she was very passionate. It is to be observed, that the mother's milk did not flow for several days after the birth of this child, that the infant was fed with the spoon during this period, but from then until she was three months old, the mother continued to suckle her, being at this time compelled to give up nursing, in consequence of ill health, and from that period to the present, the child has been brought up by spoon-feeding alone. I may here state, that, a few days after birth, the *thrush* appeared, and passed away in the space of forty-eight hours, without having occasioned the slightest uneasiness to the little patient during its progress, although there was a considerable quantity of flaky mucus passed off by stool, still the disease was remarkably mild, and did not appear to influence her health in the slightest. The infant was vaccinated twice during the period she was nursed by the mother, and without the slightest apparent effect, not even producing a blush in the vicinity of the punctures; she was about six weeks old when vaccination was first attempted (the small-pox being prevalent at the time,) and ten the second time. The child was frequently observed, after taking food, and without the slightest exertion, to throw up from the stomach a water brash-like fluid; this sometimes disappeared for weeks, and

then returned as before. Nothing worthy of observation presented itself in the state of the child's health, from the time of its being weaned until it was five months old; the change of food produced no effect whatsoever at the time, at least, no apparent effect; she was naturally costive, even from birth (her parents being of the same habit,) and this derangement was neither increased nor diminished by the change of nutriment consequent on her being weaned. But it may be here noticed, that, between the first and second vaccination, an immoderate flow of saliva commenced, saturating several cloths daily, and continued until the infant was nearly five months old; it then became suddenly suppressed, and without any apparent cause whatever. The child's health during this period was, as before stated, remarkably good. It is worthy of remark, that from the time when the flow of saliva first commenced, until it totally disappeared, the holding or catching of the breath *never showed itself*, and led the nurse to suppose that her baby had got over her '*passion fits*,' as she was wont to observe. All seemed going on well with the child, who being naturally quick, was increasing daily in liveliness and vigour. On Christmas day, the over-fond mother thought, as her baby was looking so remarkably well, and seemed in the best spirits possible, that she would give her a 'morsel of plumb-pudding,' which she avers was not as large as a nut, but it appears was saturated with sherry wine. However, the child seemed nothing the worse of this for a few days, according to the nurse's account. On Friday, the 5th of January, remarkable for the dense fog which immediately preceded the severe frost, the child was observed to be particularly uneasy and restless, and this being supposed to have originated from derangement or irritation of the bowels, *hydrargyrum cum creta*, gr. iij, were ordered to be given at bed-time, to be followed in the morning by a teaspoonful of *castor oil*. This appeared to have the desired effect in giving the child relief, and in quieting her restlessness, and for the next week appeared in very good health. Just at this period the profuse flow of saliva ceased, and the frost set in with great severity. On the 10th of January, the child was observed again, and for the first time since it was weaned, to 'hold its breath,' as if from passion; this appeared twice during that day, and still without occasioning any alarm to the parent or nurse; it will be recollected that this day (Wednesday, the 10th of January) was the first of the severe frost. On the 11th there was a tendency to catch the breath observed, but it did not actually occur; the child's bowels were opened by medicine twice or three times during that day. On Friday, the 12th, the inclination was still stronger than on the previous day to hold the breath, and a stifled passion-fit did occur during the evening of this day. On the 13th nothing remarkable presented itself, excepting the child's head being unusually hot. This being again attributed to intestinal irritation, rhubarb and magnesia was administered to the child at bed-time, with apparent benefit. On the 14th, the head was still above the natural temperature, but nothing else was observed; this day the weather was extremely cold, snowing all day. On the following morning the child awoke with a crowing fit, for the first time restraining her breath for near half a minute, and alarming the nurse, for now she observed the infant's face become congested, and a blue rim appeared around the margin of both lips during the fit. However, the child returned to her natural state in a few moments after, and, seeming nothing the worse of what had happened, it was again overlooked, as being of little moment. In the afternoon of this day, another fit came on as the child was sitting in its mother's lap, which the latter attributed to passion, in consequence of her sitting down in place of walking about, this being the child's favourite amusement; this was also overlooked, and the mother only observed, that the child should be broke of this evil habit in time. A third fit came on as the child was being undressed this same evening, but disappeared almost instantaneously on her being raised to the erect position. There were no symptoms of teething present, the child was not irritable in the slightest manner, and, excepting this peculiarity, seemed in the best possible health. On the 16th, a day of severe frost, so much so that the water was frozen in the basin of the child's apartment, although a fire was kept constantly burning there, no fit ap-

peared on waking in the morning, and during the whole of this day only one mild attack came on; but the child's head was observed to be extremely warm, in consequence of which the mother was led to take off the cap for awhile, that the heat might subside, thinking that the extreme cold of the atmosphere would soon reduce its temperature. But this was not of the slightest avail, although persisted in for two hours, and the mother then gave the child a powder as before, containing rhubarb and magnesia, which produced two motions, and considerably abated the inordinate heat of the scalp. On the morning of the 17th, the child had a mild paroxysm as it was being dressed, this was about nine o'clock; there was an interval of two hours between the first and second fit, the latter being more severe than the former; another fit, still more severe than the two previous, appeared after the lapse of one hour, and the nurse, supposing it to be the effects of passion, attempted to subdue it. The disease again returned in or about half an hour after the last attack, and was repeated every half hour until two o'clock; at this time it assumed a much more serious aspect, and the fits recurred in quick succession (the intervals between each being about ten minutes,) continuing in this state for the space of an hour at least. The family medical attendant saw the infant in one of those fits on this day, and for the first time. He had not seen the child for two months before, and on looking at the head, thought it very much enlarged; it was also considerably above the natural temperature on this day, which led him to think those 'fits' were owing to effusion at the base of the brain, and were probably the precursors of convulsions, which he said was to be obviated by the timely application of leeches behind the ear, by the use of the warm bath, and by aperients, such as hydr. c. creta, in two grain doses, all of which was adopted on that evening. It is worthy of observation, that a few moments before the leech was applied, the child had a severe attack of the disease while sitting quietly in the nurse's lap; that on the application of the leech the child screamed violently from the pain of its bite; and during this time not the slightest symptom of the disease appeared. This exemption from the disease was remarkable throughout this case, whenever the child was irritated so as to scream violently; and on this and other peculiarities we purpose commenting, after detailing the facts of the case. From the difficulty of stopping the bleeding of the leech-bites, the infant lost more blood than was intended; still the heat of the scalp continued unmitigated; but about two or three hours after the administering of the hydr. c. creta (the nurse by mistake having given two powders instead of one), a copious evacuation was produced, which succeeded in diminishing the abnormal heat of the head, that had now continued for thirty hours. After the hæmorrhage ceased, the infant fell off into a tranquil sleep—the sleep of exhaustion, and which continued undisturbed for six hours; when the child awoke from this slumber it was unusually restless, but the disease did not appear on her waking; the head gradually resumed its former morbid state of heat, and a throbbing of the fontanelles was particularly evident. The medical attendant ordered the head to be uncovered during the day and the body kept cool.

"I saw the child in a mild fit on this day; but thought the disease was totally unconnected with any cerebral affection. I stated my opinion, that it was a nervo-laryngeal affection, probably spasm of the glottis; that the exciting cause was derangement of the alimentary canal, arising from costiveness. I lanced the gums immediately, in case dental irritation was a cause of the disease, passing the instrument as deep as the maxilla, but there was not the least appearance of teeth, the child being now near six months old. During the two following days, there was no recurrence of the disease, but about two o'clock on the third day there was a severe fit of crowing.

"There was no apparent cause for this attack, and it came on whilst the little patient was sitting quietly with its nurse. I saw the child during this fit, and was convinced that it was a well-marked example of the disease commonly called the '*crowing inspiration of children*,' &c., and of a *purely* nervous character. Any individual who had once seen this affection could never mistake it again for any of those diseases incidental to the infantile age. On the 22d, I

had a consultation with Dr. Marshall Hall respecting this disease, when it was agreed that if possible the child should be provided with a young and healthy nurse; and if this could not be acquired, asses milk might be substituted; that the gums were to be freely lanced at least once a week, and the bowels kept regular by mild aperients. Dr. Marshall Hall did not at this time see the child in a fit of the disease, but from the description given was convinced of the existence of the affection under consideration; the warm bath was also recommended every other night, and strict attention to the antiphlogistic plan as regards nourishment. By this treatment the disease was warded off until the evening of Monday, the 29th, when the child had a very severe attack, bordering on convulsions; she was immediately put into a warm bath, which perfectly relieved her for the time being; and after taking a powder containing rhubarb and magnesia, fell asleep in the nurse's arms.

The child now, for the first time, began to evince symptoms of terror at each accession of the disease; formerly she never appeared in the least degree alarmed before or after the fits. No medical man saw the infant this evening; and as she appeared quite well next morning, the mother thought it unnecessary to have medical advice. During the next four days the disease appeared only three times, but the fits were of much longer duration than any of the preceding. On the 5th of February, the disease being aggravated, Dr. Marshall Hall and myself again saw our patient. During our visit the child had two severe fits of the disease; these were the first which Dr. Marshall Hall saw this infant have, and was now convinced that there was no cerebral affection existing as a cause of this disease. He also agreed with me in attributing it solely to a derangement of the alimentary canal, the motions being black and slimy, without a tinge of bile, and these produced with difficulty, even by the aid of medicine. The bowels were ordered to be briskly purged, and Dr. Marshall Hall recommended hydrocyanic acid as an antispasmodic, in the proportion of a minim to the ounce, a teaspoonful to be given occasionally after the bowels were acted on. I saw the child early next morning, and was informed by the nurse that the medicine had opened twice, but the motions were still dark and scanty; that she had administered the hydrocyanic acid once only since the bowels were opened, and only one crow came on during the night.

"The child was sleeping when I made my visit; the breathing was evidently laborious, and sometimes stertorous during the time I was present. The child awoke after the lapse of ten minutes, crying, but had not an attack of the disease. I could now perceive a peculiar *rudesse de la voix*, or raucity of voice, especially in the act of crying, and which was not at all observed before this day. After walking about the room for a few minutes, the nurse proceeded to administer the hydrocyanic acid a second time, and with great difficulty could get the child to take it. From the irritation produced by forcing the little patient to take the acid mixture, a paroxysm of the disease was brought on, which began like one of the mild attacks that were heretofore observed, but rose gradually to a fearful height. The first evidence the child gave of the approaching spasm was by bending the *body forwards*, as in *emprosthotonos*,* and not backwards, as Dr. Clarke observed in the cases he relates. She seemed gasping for breath, and darted her head on all sides, as if seeking for air. There was now a momentary pause, in which the respiration was totally suspended; and this was immediately followed by a sound deep in the larynx, resembling the '*death rattle*,' or the rushing of waters, which led me to suppose that some of the liquid had passed into the air passages.

"The face now assumed a purple cast; the eyes were uplifted, presenting that peculiar appearance denominated '*pathetic*;' the pupils were widely dilated, and a deep blue, or livid areola appeared around the margin of the lips and eye-

* Dr. Marshall Hall had never seen this state of contraction before: and this is the case he alludes to in his last lecture, where he states "the fifth case I saw there was emprosthotonos and contraction of the pupils during the spasm, with dilatation afterwards."

lids; the body was still bent downwards, and rigidly retained in that position. The thumb was clenched in the hand; the arms and legs were strongly contracted; in a word, the entire body was in a state of the most rigid spasm. The gurgling sound of the air passages terminated in two or three *impeded* attempts at inspiration, which were at length followed by a long, loud, and shrill crowing inspiration, resembling that of *pertussis;* and the little sufferer, instead of crying, as formerly, now, from the extreme exhaustion, fell over in the nurse's arms, into a deep slumber; at first the breathing was heavy, but it soon became perfectly tranquil, and in this way she reposed for near one hour. The following four days the paroxysms were milder, but more frequent than heretofore; and on Saturday, the 10th, they became greatly aggravated, and the danger of asphyxia was extreme; towards the evening of that day a violent paroxysm came on, far surpassing any of the former; the child lay perfectly stiff in my arms for some moments, and in this state, *with her clothes still on,* I plunged her up to her middle into a warm bath, which was ordered to be kept in readiness in case of any emergency. Dr. Tweedie came in just as the child was being removed from the bath, and was present during two paroxysms of the disease. I omitted saying that the fit previous to the warm bath being used terminated in convulsions, the first and last time during the progress of the disease, that they appeared.

"Dr. Tweedie thought the disease was now at its height, and the infant's life was in considerable danger; that *during the paroxysm* nothing could be done to alleviate the sufferings or avert the danger of strangulation, and they must only be allowed to take their course; and owing to the great torpidity of the bowels the most active remedies must be had recourse to. During the last four-and-twenty hours there was only one scanty motion, dark-coloured, and of the consistence of *putty*, although the child had taken three powders within that space, containing one grain and a half of calomel, with five of the dried carbonate of soda. The mercurial purgatives will be found, in general, improved in their action by the addition of this alkali, and followed up by a teaspoonful of castor oil. It was now agreed upon that one grain of calomel, three of scammony, and three of rhubarb, in the form of a powder, was to be administered immediately, and in two or three hours after a teaspoonful of the common black mixture, should be given; if this did not operate the powders were to be repeated until the bowels were moved. Injections of warm water having failed repeatedly on former occasions were not resorted to on this. The powders and black draught were administered twice, and after the lapse of eight hours and a half *one dark-coloured* motion was produced. The medicine not operating, as was expected, though six powders of the above strength were administered within the twenty-four hours, I changed the three grains of rhubarb for three of jalap next day, after a single dose of which the bowels were copiously discharged.

"At the mother's anxious request, I sat up all night with my little patient, as she dreaded the convulsions again coming on. However, nothing serious occurred in the night, but towards morning the child had *two modified* attacks of laryngeal asthma, the disease having evidently yielded to the influence of the medicine that had been administered. The powders were repeated every four or six hours from the last dangerous attack, until the disease was greatly abated. There was no accession of the paroxysms from Saturday evening until Monday evening, the 12th of February. Dr. Tweedie saw the child this day, and considered her greatly improved. He was surprised that her spirits, which were still active and lively in the extreme, were not in the slightest affected by the brisk and continued purgation, and the exhaustion produced by the disease itself when the paroxysms were so frequent and severe. On the morning of Tuesday, the 13th, the little patient not having had any medicine for nine hours previous, evinced a tendency towards the crowing inspiration again, the same peculiar *rudesse de la voix* as before mentioned, became again apparent. The calomel and drastic purgatives were immediately administered, and after the lapse of two hours, during which the crowing tendency continued, a copious

evacuation (but still unhealthy) was produced; four hours after the last was given another was repeated, which also operated briskly, and the motions were not quite so dark as before, but still not natural; each of these powders was followed in due time by a spoonful of the common black draught to accelerate their action.

"Dr. Marshall Hall now strongly urged change of air for the child, as he had two little patients within the last season, which were quite recovered by it, after the use of medicine. However, the inclement state of the weather at the time would not permit of an immediate change, and the child was now swathed in flannel, and the heat of the room was regulated by the thermometer to between fifty-eight and sixty degrees of Fahrenheit. I find nothing particular noted down in my case book during the three following days (those are the 14th, 15th, and 16th,) respecting the disease, but that the bowels were still kept freely open by the same remedies. On the 17th, I was wishful to substitute a mild aperient—hydr. c. creta, for the very severe remedies which had now been used for a week; accordingly the former medicine was administered in three grain doses, three times during the ensuing twenty-four hours, but without any effect, and the evidence of approaching spasm being again apparent, I immediately had recourse to the drastic purgatives, which operated after three hours, and banished the threatening symptoms of the disease.

"On the 18th, the child appeared uneasy and restless, but no appearance of the disease presented itself, and I again lanced the gums, being the third time since the disease assumed its dangerous aspect. The only medicine that was administered this day was a teaspoonful of castor oil, which operated mildly on the bowels.

"On the 19th and 20th the child was doing well, and lively in the extreme.

"I saw my little patient on the 21st, at noon, and the disease appeared almost gone. The nurse informed me she had only one paroxysm within the last twenty-four hours, and that the bowels were opened twice during the same time without the aid of any medicine. I now strongly urged the mother to remove, for even a few weeks, to one of the villages around London, and this she accordingly did on the following day, February 22d. Although the first week after the removal to the country, the weather was very severe, still the child appeared benefitted considerably by the change, as not a single crowing inspiration was observed during that time, notwithstanding her being confined to her nursery from the day she was removed until the 1st of March. The bowels were still torpid, and an occasional mild aperient was necessary to keep them open; but from this time until the present nothing of any importance occurred (excepting one *threatened* paroxysm) in the infant's hygiene, the disease appearing to have altogether subsided, and the little patient is now daily progressing in health and vigour.

"The following facts, detached from the history of the preceding case, are those which particularly demand our attention.

"First.—That the infant, from its birth, evinced a tendency to spasm of the larynx.

"Second.—That during the continuance of the profuse flow of saliva, this tendency to spasm totally disappeared, from which it would appear that dentition was the cause of it, more especially as the symptoms reappeared on the suppression of the discharge.

"Third.—That the spasmodic paroxysms assumed a quotidian form, recurring at two o'clock each afternoon, *for some days*, and disappearing during the intermission.

"Fourth.—That there was no cerebral affection whatsoever as a cause of this disease.

"Fifth.—That the irritation produced by crying, or screaming violently, *seldom or never brought on a paroxysm* of the disease, this being contrary to all other recorded accounts of the same affection.

"Sixth.—The *emprosthotonic* contraction of the body, in contradistinction to the cases narrated by Dr. Clarke and others.

"Seventh.—The *contracted* state of the pupils during the paroxysm, and dilatation afterwards, which state I believe has not been hitherto recorded, except in last week's Lancet, where Dr. Hall alludes to *this* case in his lecture.

"Eighth, and last.—The obstinate torpidity of the bowels, which in this instance appears to be, without doubt, the real exciting cause of the disease."

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19. *Efficacy of Emetics in removing Paralysis of the Facial Nerve.*—Dr. C. J. Heidler, of Marienbad, relates in *Rust's Magazin*, (Bd. xlix. Heft 2.) the two following cases to show the efficacy of emetics in removing paralysis of the facial nerve. We have several times witnessed their utility in our own practice.

Case 1. A man, ætat. 44, of rather feeble constitution, complained of a feeling of fulness in the head after a morning of rather severe study. In the afternoon, during an excursion to the country, he exposed himself to cold, and on his return home became aware of a slight difficulty of rounding the mouth in spitting. This symptom gradually increased till the case assumed the aspect of a mild form of paralysis of one side of the face. There was still slight congestion of the brain, and the whole vascular system was a little excited. The tongue was affected only in a slight degree. The diagnosis was—a congested, or perhaps an inflammatory state of the root or trunk of the facial nerve. Venesection of twelve ounces, a blister to the nape of the neck, cold applications to the head, and an emetic. The only immediate consequence of these remedies was the partial relief of the congestion of the head. The patient passed a good night; but on the second day the paralysis seemed to have increased rather than have diminished: leeches were, in consequence, applied behind the ears and to the nape of the neck, and sinapisms to the feet; the cold applications to the head were continued. In the afternoon a blister was applied behind the ear; the back and the calves of the leg were drycupped, and a drastic purgative prescribed; but these measures failed in producing any apparent diminution of the paralysis. On the afternoon of the third day, another venesection of ten ounces was made, in consequence of a return of the symptoms of cerebral congestion; ice was kept applied to the head, and in the evening an emetic was administered. This was followed in some hours by a sensible diminution of the paralysis and the disappearance of the cerebral fulness. On the fourth day warm cataplasms were applied to the affected cheek; but cold applications to the head were repeatedly substituted, when the symptoms of congestion threatened to appear. On the fifth day there were again slight congestion, for which leeches were applied, and an emetic given in the evening, but without in any degree removing the paralysis. On the sixth and seventh days the warm cataplasms were occasionally applied, and another emetic was administered in the forenoon of the latter day, which produced copious vomiting. In the evening the patient regained some power over the affected muscles, and during the two following days it continued to increase; the warm cataplasms being occasionally applied. On the eleventh day another emetic was ordered, which produced still further diminution of the paralysis, which eight days sufficed to remove entirely.

Case 2. A woman ætat. 40, of weak constitution, was affected with violent inflamation of the left ear, which apparently extended to the brain and corresponding facial nerve, leaving, after its removal, a total paralysis of the muscles of this side of the face. Four weeks after the inflammation had ceased, all the branches of the facial nerve, but particularly its trunk immediately after its exit from the cranium, still showed considerable sensibility on pressure. The brain was affected in a slight degree, and the whole of the left side of the head felt tight and uncomfortable. The commissure of the mouth and the eyeball were nearly immoveable, and considerable difficulty was experienced in moving the eyelids, which during sleep remained half open. The intellect was slightly affected, and a feeling of numbness in the hand and foot of the affected side gave rise to suspicions of threatening apoplexy. Such was the state of the patient in the sixth week after removal of the inflammation, notwithstanding the energetic employment of counterirritation and other remedies. A slight indigestion was at this period the cause of an emetic being administered, which had the effect of

producing a sensible diminution of the paralysis. The patient made no further advance towards recovery during the next eight days: a second emetic was then exhibited, which was followed by a similar diminution of the symptoms. Seven emetics were thus successively given at longer or shorter intervals, with the final result of removing completely the paralytic affection.—*B. & F. Med. Rev.* Jan. 1839.

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20. *Hepatic Abscess.*—We transfer to our pages from the *India Journal of Medical and Physical Science*, (July, 1838,) the following table of 41 fatal cases of hepatic abscess, with the interesting remarks appended to it, by Dr. JACKSON, the Surgeon to the Regiment.

Table of fatal cases of Hepatic Abscess, which occurred in H. M's. sixth Regt. at Colaba, Bombay, from July, 1836, to Dec. 1837.

Number.	Ages.	Years in India.	Head of Admission.	Date of Admission.	Number of days in Hospital.	Number.	Ages.	Years in India.	Head of Admission.	Date of Admission.	Number of days in Hospital.
1	29	10	Dysenteria ac.	11 July, 36.	17	22	43	12	Hepatitis ac.	3 April, 37	7
2	22	2	Hepatitis chr.	24 "	45	23	33	11	Dysent. -	6 "	41
3	28	9	Idem. -	30 Nov. "	18	24	46	12	Hepat. -	13 "	52
4	31	10	Hapatitis ac.	5 Dec. "	24	25	30	11	Pneumonia	7 May, "	12
5	30	10	Idem. -	19 "	20	26	35	12	Hepatitis ac.	21 "	13
6	35	12	Idem. -	19 "	28	27	31	11	Dysent. ac.	21 "	9
7	21	1½	Dysent. ac.	20 "	53	28	35	9	Idem. -	23 "	31
8	27	11	Idem. -	21 "	15	29	1	10	Hepatitis	25 "	58
9	32	11	Hepat. ac.	25 "	18	30	46	12	Idem. chr.	8 June, "	34
10	32	12	Idem. -	3 Jan. 37.	61	31	28	11	Idem. -	27 "	45
11	32	12	Dysent. ac.	20 "	9	32	39	8	Idem. -	7 July, "	13
12	19	2	Idem. -	21 "	10	33	33	10	Dysent. ac.	9 "	44
13	32	11	Hepatitis chr.	21 "	7	34	37	17	Hepatitis chr.	16 "	108
14	30	11	Idem. ac.	23 "	60	35	39	10	Dysent. ac.	3 Aug. "	16
15	38	12	Dysent. chr.	8 Feb. "	2	36	37	10	Idem. -	10 "	7
16	33	9	Idem. -	8 "	133	37	32	11	Hepatitis ac.	25 Sept. "	9
17	45	12	Idem. -	11 "	7	38	41	12	Dysent. chr.	1 Oct. "	11
18	47	11	Idem. -	14 "	6	39	36	12	Idem. -	9 Dec. "	
19	33	12	Hepat. ac.	5 Mar. "	19	40	22	2	Idem. -	14 "	
20	39	21	Dysent.	16 "	15	41	30	11	Hepatitis ac.	15 "	
21	46	22	Idem. -	16 "	4						

"Here is a frightful table of casualties from one disease!! against which I can scarcely bring a well marked case of a similar nature terminating in recovery.

"The disease was insidious, and the symptoms obscure, seldom in the first instance referrible to the seat of the disorganization. In the worst cases pain in the side was either absent, or so slight as not to be complained of by the patient. In many the figure of the right side of the trunk was perfectly natural. Again in others there was an enlargement in the Epigastric and right Hypochondrial regions, varying from a slight fulness to an enormous bulging out, and the latter generally took place suddenly.

"The symptoms most characteristic of the disease were, irregular paroxysms of fever, with profuse clammy partial perspirations. Pulse remarkably soft and compressible, sleepless nights, total loss of appetite, sallow or livid countenance, features shrunk. Tongue of a dark green colour, often without fur, sometimes morbidly clear. Taste vitiated or lost. Urine scanty and of a high colour, extreme whiteness of the skin, particularly of the hands. Emaciation and depression of spirits.

"There was nothing remarkable in the stools on admission, but flux generally supervened. The patient complained of sense of emptiness in the epigastric region, which he in vain attempted to relieve by swallowing what ingesta he could. There was no pain on pressure, but inability to lie on either side: impeded respiration, dulness or percussion of right side of the thorax and absence of the respiratory murmur. Pain shooting up the right side of the walls of the thorax and affecting the scapula and shoulder was a common symptom.

"No. 37 and two other cases had been in hospital for indescribable anomalous complaints, under the head of dyspepsia, remained for several weeks, when some of the above symptoms indicated the formation of matter. Others apparently well in barracks, or so slightly ill as not to be aware that any thing was the matter, remained so until the disease suddenly assumed a serious aspect, and the patient was admitted in a state of collapse.

"Some had been the subjects of previous attacks of hepatitis: in these it was presumed, that an acute attack supervened, while the organ was in a state of chronic inflammation, or softening and ran rapidly into suppuration.

"In several of the casualties under the head of dysentery, abscess was not suspected during life. In almost all the cases of hepatitis, the diagnosis formed at an early period, from the general symptoms and history of the case, turned out but too correct; the more immediate cause of death was hectic fever or colliquative diarrhœa, and this event generally took place before the abscess burst. They generally pointed (when this did take place) on the epigastric or infra mammary region between the ribs. In three cases the abscess was opened: only one of these recovered. Opening them generally accelerated a fatal termination by aggravating the irritative fever. Two cases, not included in the above table, came under my care: both were opened. From one, a hundred ounces of pus came away the first 20 minutes, and 350 more next day, which afforded only temporary relief.

"In none did the abscess burst externally, nor into the intestine, in one into the lung, in one only into the peritoneal sac.

"Upon inspection of the bodies after death we often found destruction of the whole right lobe of the liver, involving the peritoneal lining posteriorly. The right lobe was more frequently the seat of abscess than the left. In some there was one or two large abscesses, in others a number of small ones, of different sizes, generally not communicating with each other, lined by a cyst of different degrees of consistence, in some semi-cartilaginous, in others thin. The contents varied in colour, consistence, and appearance. These were thin, serous, ichorous, milky, flaky, jelly-looking or of the consistence of healthy pus, and often containing large portions of degenerated liver. Those portions of the liver not involved, were of a grayish colour and in a state of softening. The substance of the gland immediately surrounding an abscess did not differ in colour or mechanical properties from the other parts. In No. 25 Pneumonia, the diagnosis was altogether wrong, the patient had been ill many days under canvass and in ship board his left lung was nearly obliterated by the abscess pushing up the diaphragm and extending as high up in the chest as the second or third rib.

"In No. 14 the patient expectorated pus many days before his death; upon a careful post-mortem examination no communication between the liver and lung could be traced. In two-thirds of the fatal cases of dysentery last year, hepatic abscess was found to have co-existed. It is worthy of remark that when we had the greatest number of cases of hepatic abscess, there were remarkably few cases of abscess in other parts of the body, scarcely any not even boils.

"From the table it appears that the majority of these fatal cases occurred in men who had been ten and twelve years in India and who were between 30 and 40 years of age. Seven were upwards of forty, while four were recruits.

"Some of the patients evinced symptoms of scorbutus, and I suspect that in all of them a latent scorbutic diathesis existed to a greater or less extent. Scorbutic hepatitis is as reasonable as scorbutic dysentery, and perhaps the term is as expressive of the nature of one disease as the other. This scorbutic taint may

have been complicated with a purulent diathesis pus separated from the blood without previous inflammation and deposited in an organ in a state of softening.

"With regard to the treatment, our principal indications were, in the first place to do no harm and to avoid the debilitating influences of medical treatment, then to keep the patient alive as long as possible by inspiring him with a false confidence in placeboes. The system was totally insensible to the influence of mercury as sialagogue.

"However, leeches in moderate number, baths, sinapisms freely applied, anodynes, laxatives, and stimulants were found highly serviceable and were administered pro re nata. VS. was inadmissible. Sudorifics and diuretics were of use.

"I have seen a patient recover from the following symptoms indicative of hepatic abscess, viz. heavy dull pain in hepatic region, an enormous swelling in the right hypochondriac and epigastric regions, green tongue, soft pulse, restless night, flux, &c. A few doses of calomel and blue pill as purgatives were administered, but without any hope or object in producing salivation.

"It appears that the total number admitted under the head of hepatits was twenty, the same number under that of dysentery and one under that of pneumonia.

"The number or size of the abscesses, are sufficient to account for its fatality. I can easily fancy a man recovering from one moderate sized abscess, bursting internally or punctured. In those cases contracted in hospital, and in which the disease was early suspected, the treatment was as unsatisfactory as in serious cases admitted from Barracks.

The subjects of many of the above casualties were known to have been hard drinkers, but none of them, Dr. J. says, indulged to such excess as to have been subject to delirium tremens. "In several of the worst cases," he states, "the patient seriously declared, that he had never experienced pain in the side, nor did they even allude to any weight or uneasiness in that region. I strongly suspect the fact to have been, that their feelings of health and disease were completely marked by the operation of arrack, until the disease suddenly exploded, and they were admitted in a state of collapse."

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21. *Case illustrating the History, Symptoms, Pathology and mode of Treatment of Simple Ulceration of the Stomach.* By Langston Parker, M. R. C. S. A remarkably stout man, a free liver, in the middle walks of life, began to suffer from uneasiness after taking his food at the age of eight and twenty years. He then suffered from weight, distension, and flatulence, with nausea after eating; he had also occasional vomiting. These attacks were relieved by medicines prescribed for him by the physician, under whose care he was at that time placed, but were prone to recur when the patient returned to his customary habits of living. When I first became acquainted with him, eight or ten years ago, he complained of fixed pain in the epigastric region, which was much increased by pressure and taking food; the pain was not at that time constant, it was most distressing after eating, and accompanied by much flatulence and distension. By restricting the patient to a milk and farinaceous diet, sponging the epigastric region frequently during the day with hot water, and exhibiting some mild carminative aperients daily for a short time, the symptoms subsided, and he again returned to his occupation in apparently good health.

After a time the pain again returned in a more violent and obstinate manner than before. It assumed the same character, was worse after eating, and accompanied by some tenderness and heat in the epigastrium. It did not now yield to the remedies which had before relieved him, but was much mitigated, and for some time entirely disappeared after the application of small relays of leeches, and continued counter-irritation over the epigastric and left hypochondriac regions.

My patient again returned to his accustomed occupations and mode of living, and after a lapse of eighteen months returned again with his pain as bad, if not worse than before. He was again relieved, I may say cured of his distressing

uneasiness, by the administration of small doses of the muriate of morphia, and a repetition and continuance of counter-irritation; observing, at the same time, a strict dietetic regimen.

In this manner, during the last ten years of his life, was this patient relieved or cured six or seven times of the painful affection of his stomach, which as constantly returned, when he resumed his customary habits of living upon mixed and stimulating food and drink.*

After having lost sight of him for some time, during which period his ailments were so slight as not to lead him to seek medical assistance, I was suddenly called to him during a violent attack of hæmatemesis, in which he vomited from two to three pounds of blood. I may here observe that, during the previous progress of disease, my patient had never vomited blood, or those black discharges which are peculiar to ulceration of the stomach. He had rarely nausea, and if he had an attack of vomiting, which did not take place more than two or three times during the whole progress of his disease, he vomited his food only. He was, however, occasionally subject to discharges of blood by stool, and at other times when this was not the case, his stools were black as pitch; these black discharges we shall afterwards speak of, but when they occur with such gastric symptoms as the present, and independent of any hæmorrhoidal or other disease of the rectum or anus, they are symptoms indicating very strongly the existence of ulceration of the stomach.

To the vomiting of blood succeeded great languor and depression, palpitations, hurried breathing, with attacks of severe pain in the stomach and bowels, which came on daily, sometimes twice or thrice in the twenty-four hours. The pain seized him suddenly, and left him with a discharge of wind. He had great tenderness and pain in the epigastrium and right hypochondrium; the skin had a pale, sallow, blanched appearance, whilst the tongue did not deviate in any appreciable manner from a perfectly natural condition; it had the same pale appearance as the skin; no coating, no redness, no development of the papillæ.

From this time to the period of his death varied plans of treatment were adopted, with a view of relieving the epigastric pain. The trisnitrate of bismuth with the pondrous carbonate of magnesia and the muriate of morphia certainly afforded very marked relief; amongst many remedies that were employed this was the most efficacious. Benefit was likewise derived from the carbonate of iron with rhubarb, and a sedative. Small blisters were also used, with a strong solution of the extract of belladonna applied warm on a piece of flannel and laid over the epigastrium. Suddenly and without any appreciable cause his breathing became embarrassed, cough came on, and terminated in the expectoration of muco-purulent matter to the extent of three half-pints daily.

Under the continued irritation of pain, and bronchial disease, my patient sank, three weeks after the attack of hæmatemesis, at the age of 52. I believe the immediate cause of his death to have been bronchitis. I am firmly convinced that from his stomach disease he would have recovered.—*Med. Chirurg. Rev.* October, 1838.

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generally thickened and elevated, in which the mucous and muscular coats of the stomach are more or less completely destroyed, and the bottom of the ulcer is formed by the peritoneal coat of the stomach; or, where the ulcers have healed by a membrane, the result of the process of cicatrization.

The anatomical characters of the disease consist in a round, oval, or irregular shaped ulcer, more or less deep, occupying various positions upon the internal surface of the stomach, more frequently however situated in the cardiac portion, the greater curvature, or, in the vicinity of the pylorus. The edges of these ulcerations invariably present considerable thickening, so that, in many instances, they appear, as it were, dug out into the substance of the thickened adjacent coats.

In ulcers of moderate size, the mucous and muscular coats of the stomach are commonly destroyed, and the bottom of the ulcer is formed by the peritoneal coat, sometimes very much thickened, a membranous cicatrix, or the base is rough, uneven, and fungous, and shows that the process of ulceration is still going on. M. Cruveilher has, Mr. P. thinks, committed an error, in stating that these simple ulcers of the stomach are generally single. In a great number of instances, Mr. P. states they are not only double, but even multiple, and the use of a moderate glass, or even the naked eye, will show in many instances where a large ulcer seemingly exists alone, that the mucous membrane is covered with many small spots of ulceration which a superficial examination might pass over.

One great peculiarity of this species of ulcer is its tendency to cicatrize under proper medical treatment. In some instances the cicatrices of these ulcers precisely resemble those of a badly healed burn, and they have likewise the same tendency, if the ulcer be large and deep, and its edges very much elevated, to pucker up, and draw together the surrounding parts, so that the stomach is contracted and deformed, its peristaltic motion impeded or destroyed, and the process of digestion in this manner rendered laborious and painful.

All the cases of simple ulcer Mr. P. has had an opportunity of examining after death have presented concomitant marks of inflammation in other parts of the stomach; these have consisted in general increased vascularity of its mucous membrane—a punctiform or arborescent redness, general or partial—a congested and distended state of the veins of the submucous cellular coat, with general or partial thickening of the other tissues.

The terminations of ulceration of the stomach are four;—in three modes fatally, in one favourably. It may terminate in erosion and perforation of the stomach;—in one way by the continuance of the ulcerative process, and in another by the weight of the food pressing continually upon a thin cicatrix, or the centre of an ulcer occupying the greater curvature or cardiac portion of the stomach. Simple ulceration of the stomach may terminate secondly in a fatal hæmatemesis, the process of ulceration, by its continuance, opening a large venous or arterial trunk. It may in a third way become fatal, and wear out the patient by the constant and violent pain it occasions, destroying his digestive powers, impeding nutrition, and producing gradual emaciation, and death. Fourthly, the ulcer may cicatrize, and the patient become perfectly well, though even in this mode of termination there are two evils to dread—the recurrence of the disease from slight exciting causes, and the rupture of the cicatrix from the pressure of food, or from violent exertion.

The following is the general description of the symptoms of the disease as given by Mr. Parker:—The first of these symptoms is a fixed, acute pain, occupying the epigastric, or left hypochondriac regions, the centre of the sternum, or some point on the dorsal portion of the spine, between the scapulæ. This pain is the symptom "par excellence," it is that, and generally that only which attracts the patient's attention; from it he may be for some hours occasionally free; but never is so entirely during the day. For many hours out of the twenty-four, this corroding uneasiness harasses the sufferer, sometimes in the morning, at others in the evening, sometimes in the intervals of meals, but generally it succeeds to them, and commences with more violence after the din-

ner meal, continuing without abatement till late in the evening, when it commonly subsides, and leaves the patient comparatively easy for the night, till breakfast brings back a return of his sufferings. The seat of this pain is, as I have just stated, variable. I attended a gentleman for some years with simple ulceration of the stomach, who always suffered most severely in the centre of the dorsal portion of the spine, and along the course of the intercostal spaces; in this patient the epigastric pain was not absent, but in some measure masked by the greater suffering he experienced in the back and sides. These parts were very sensible to pressure, and he invariably experienced relief of the gastric uneasiness, from the application of small relays of leeches over the tender spot on the spine; this, during the latter months of disease was the only remedy that afforded any marked relief. This patient died ultimately from violent hæmatemesis.

In many other instances the pain is confined to the centre of the epigastrium, which is the chief, and indeed the only seat of suffering.

Although the act of taking food occasions the patient so much uneasiness, the appetite in many cases of ulceration of the stomach continues good, and in some instances is morbidly increased. The remark of patients labouring under this disease is commonly "I could eat any thing but dare not." In certain instances the appetite is defective. This I think arises most commonly from extensive concomitant inflammatory action, and where the ulceration is complicated with other lesions of the mucous membrane.

The tongue is in a great majority of instances clean; in some not the slightest deviation from the healthy condition can be detected; it is neither redder, nor less moist than usual, and even when ulceration of the stomach has been accompanied by profuse bloody vomiting, we observe the tongue to present that blanched condition which is common to other organs in this state, and not to offer that contrast to the external skin which is so remarkable in the advanced stages of pure chronic gastritis, where the vivid redness of the protruded tongue presents a striking contrast to the sallow, pallid countenance.

I have, in my work on the stomach, adduced a variety of facts, noticed by myself, and supported by the corroborative testimony of Louis, and Andral of the uncertainty of the state of the tongue as indicating any particular pathologic condition of the stomach. The tongue certainly bears no direct relation to the kind, or degree of disease existing in the stomach. Dr. Stokes has remarked that too much attention is, and has been paid to it, with this view, by British practitioners; whilst Louis says "we should examine the tongue for itself merely, not to ascertain by it what is the matter with the stomach." I have rarely met with a case of simple ulceration of the stomach, where constipation of the bowels has not been a prominent and most distressing symptom; and one which is a source of great anxiety both to the patient and his attendants. The attacks of pain are more violent and frequent whilst constipation is present, and again there is great difficulty in framing an aperient that will relieve constipation, without producing great pain during its operation.

Nausea is not a common attendant upon this disease, but sudden and sometimes fatal vomiting of blood, or a black fluid, comes on at an earlier or later period. M. Cruveilhier considers the black vomiting peculiar to, (and almost pathognomonic of,) ulcerations of the stomach, to result itself from blood, slowly secreted from an ulcerated surface, and rendered black by its sojourn for a longer or shorter space of time in the cavity of the stomach, and its mixture with the acids of the gastric juice.

Bloody vomiting, in ulceration of the stomach, is by far the most dangerous symptom we have to contend with. I have certainly seen a patient recover from ulceration of the stomach after several attacks of severe hæmatemesis; these cases, are, however, comparatively rare. Discharges of blood rarely occur early in the disease, and when they come on to any extent, a patient is worn out and emaciated by constant pain; they are very commonly fatal. I have more than once seen persons, with ulceration of the stomach, die in the very act of throwing up blood.

Before any vomiting of blood, or black fluid, takes place in ulceration of the stomach, it will very often be found that these matters are passed by stool. The blood is slowly exhaled, mixes with, and colours the food and fæcal matter, and passes off in stools as black as pitch. This symptom, considered with others, will leave no doubt on the mind that blood is slowly oozing from an ulcerated surface; and it will lead to the adoption of measures to prevent the sudden vomiting of blood, which commonly succeeds to the black discharges by stool, of which these latter are, in many instances, premonitory symptoms.

The manual examination of the epigastric region contributes little to confirm our diagnosis in this disease. It is sometimes highly sensible to pressure, at others perfectly indolent. In the advanced stages of disease in the male, where the coats of the stomach are commonly thickened, a tumour may be detected, but, apart from the existence of other symptoms, we cannot say whether this tumour result from mere thickening, the result of chronic gastritis, or whether this thickening be accompanied by ulceration or cancer.

The general appearance of patients suffering from ulceration of the stomach, is haggard and anxious in the extreme. Defective nutrition has produced a paleness in their tissues which is very remarkable; the conjunctiva has sometimes the appearance of the whitest marble, and the whole aspect of the patient, in the advanced stages of disease, even when hæmatemesis has not taken place, is that of a person blanched by repeated hæmorrhages.

We must here inquire into the nature of those symptoms of gastric irritation which precede the actual state of ulceration, in other words, we must look for the causes of this disease; these, I believe, will be found in certain states of gastric irritation, which are very much under the control of medical treatment.

M. Cruveilhier says, "The history of the causes of simple ulcer of the stomach is involved in deep obscurity; or, rather, this disease recognises all the causes of gastritis for which it has been mistaken. But why is only one single spot of the stomach affected, whilst all the other parts of the stomach are in a healthy state!" It is singular so accurate a pathologist as M. Cruveilhier should have made a statement disproved even by many of his own cases, by the remarkable one detailed in this paper, and by the pathology of the stomach generally. The simple ulcer is met with as frequently double, triple, or multiple, as it is single; and I have never seen a case where this organ has not presented the most unequivocal signs of long continued inflammatory action, most frequently marked by general or partial thickening of its coats. Not only are the consequences of inflammation to be found in the stomach after death from ulceration, but the whole class of symptoms, which precede and accompany ulceration during life, are clearly dependent upon inflammation, as the results of inflammation sufficiently prove.

Ulceration of the stomach succeeds more particularly to two conditions of gastric irritation, which it is important here to notice; these are inflammatory indigestion, or certain forms of gastritis in males, and those affections of the stomach which occur in females whose menstruation is irregular, who are the subjects of hysteria, or who are confirmedly chlorotic. These forms of irritation are clearly of the inflammatory kind, though essentially modified by the state of the economy in which they occur.

I shall endeavour to give a brief account of such of these forms of gastric irritation which I have seen terminate in fatal ulceration of the stomach. The case detailed in the earlier part of this paper,* will illustrate in its history, the origin and progress of that form of indigestion which is evidently of an inflammatory character. The fresh attacks of this disease are generally marked by fulness after meals, distention of the stomach, eructations, heart-burn, nausea, pains in the back and sides, uneasiness in the epigastrium, terminating in fixed and constant pain, aggravated by taking food; strong beating of the heart, throbbing of the carotids, head-ache or stupor succeeding a meal.

It is true that in a vast number of instances the inflammatory forms of gastric

* See preceding article.

irritation never terminate in ulceration of the mucous membrane of the stomach, though I believe, from some experience in this class of diseases, that ulceration is a more frequent termination of them than is generally supposed. This opinion is likewise corroborated by the experience of M. Cruveilhier, who, in his second paper on this subject, states this disease to be much more frequent than he had at first supposed.

I have seen the inflammatory form of indigestion, which is a true partial gastritis, terminate in ulceration in five months, from its first commencement, in a patient who had never, previous to this period, suffered in the most remote degree from any affection of his stomach.

M. Cruveilhier believes in the existence of acute ulceration of the stomach, and adduces the case of a patient who died from the disease, twelve months after a slight attack of cholera, prior to which he had been in perfect health. He mentions a second case terminating fatally in ten days from perforation, the subject of it never having been ill before this period, the anatomical characters of the disease showing it to be a recent ulcer. A third case is mentioned succeeding to indigestion of some months standing, fatal by perforation.

The most insidious and alarming forms of irritation in the stomach, if we regard their occasional termination, are those painful affections, and disordered conditions of the digestive powers which occur in young females, particularly where there is any disorder in the functions of the uterus. It will be found on examination that most patients who are chlorotic suffer more or less from some form of irritation in the stomach or bowels.

Some complain of pain after food, nausea, daily vomiting, diarrhœa, loss of appetite with heat and tenderness in the epigastrium. Accompanying these symptoms there is commonly a dry, red tongue, and the patient suffers from a most distressing weakness.

Not unfrequently, in the midst of these symptoms, or after some partial degree of amendment, the patient is seized with acute pain in the bowels, and suddenly sinks and dies. On examination the stomach is found perforated in the centre from ulcer, with thickened and elevated edges, the immediate vicinity of which exhibits marks of inflammation and thickening of the coats of the stomach, whilst the remainder are generally very thin, and the mucous membrane in all other joints presents a remarkable pallor or whiteness, and is almost exsanguined;—a totally different condition from that observed in the mucous membrane of patients dying from that ulceration of the stomach which is the result of general inflammatory indigestion or pure chronic gastritis. In the former instance the disease is generally confined to a very small portion of the mucous membrane; it is a localised inflammatory action occurring in a constitution in an extreme degree of weakness or irritability, and seated in tissues so badly nourished that they present but little resistance to the fatal termination of the disease in perforation of the coats of the stomach.

I conceive the difference of the circumstances, under which the disease we are now considering occurs (in the male as the result of inflammatory indigestion, on the one hand, and in the chlorotic, or hysteric, or debilitated female already exhausted by uterine irritation, on the other,) to be one most powerful cause why the disease so much more frequently terminates in perforation in the latter than in the former.

I know of no instance where cicatrization of an ulcer of the stomach has been shown to have taken place in the female. In the male, the case of Professor Beclard will suggest itself to the minds of all, whilst the case now detailed is another and perhaps the most remarkable hitherto recorded. Cruveilhier states that the simple chronic ulcer has a tendency to cicatrize, and Dr. Abercrombie says that he is satisfied that he has seen the cicatrices of such ulcers when the patient has died of another disease, after having been for a considerable time free from uneasiness in the bowels. The latter authority however records nothing definite upon the subject.

I believe ulceration of the stomach to be more frequent in the male than in the female, whilst the fatal termination of this disease by perforation is much

more frequent on the part of the female than the male. Mr. Pritchard of Leamington, in a pamphlet on the organic character of hysteria, has collected from various authorities eighteen cases of perforating ulcer in the female, whilst he has only been able to meet with eight recorded ones of the same disease in the male.

It is true that the disease is more frequently verified after death in the female than in the male, but I think it will be found that the disease is more prone to cicatrization in the male from the circumstances I have mentioned, and again in the male its fatal terminations are more frequently by hæmatemesis, and gradual exhaustion, than by perforation, from the simple circumstance that the coats of the stomach generally, or those merely in the immediate vicinity of the ulcer are most commonly the seat of considerable thickening the consequence of long continued chronic inflammation. We do not observe the same causes in the female.

The *treatment* of ulceration of the stomach must be modified to suit the particular kind of affection we are called upon to manage, and hence it must be considerably different in the male, where the disease is the result of gastritis or inflammatory indigestion in any of its numerous forms, and in the female where it occurs in the midst of disorder of the health generally, and upon which, in such instances, I have no doubt it very materially depends.

I shall not here notice any plan of treatment adapted to the forms of inflammatory indigestion, having said enough on this subject in my previous work.

The grand indication in the treatment of ulceration of the stomach is to bring about cicatrization of the ulcer, and this I believe will be best accomplished in the following manner, at least it is the mode I have generally found most successful.

The patient must be limited to the smallest possible quantity of food under which he can be tolerably comfortable, but the wants of the stomach on this head must be satisfied, for if any degree of craving, or irritability be induced by the abstinence, it is carried too far. It must have been noticed by all that have had the care of patients with ulceration that they are tolerably easy except after a meal. They should never be suffered to take meals, properly so called; we should first attempt to discover what kind of food they are most easy under, and small quantities of this should then be taken every two hours, so as to prevent the appetite ever experiencing the sense of hunger, or ever feeling a desire to satisfy it by eating a tolerably hearty meal. It is almost impossible to lay down any rules as to the kind of food under which a patient with ulceration will be most comfortable; it very commonly happens that light animal food agrees better than a farinaceous diet, and I have occasionally found cold weak brandy and water in such instances the best sedative. The stomach must never be distended by food, nor any kind of food administered which so far disturbs the digestive powers, as to give rise to the evolution of much gas during digestion, which in itself, is nearly as great an evil as distending the stomach by food. The next point is the condition of the epigastrium, if there be tenderness on pressure, or heat in this situation, leeches must be applied in quantities suited to the powers of the patient till it is removed. Even in the advanced stages of disease, local bleeding from this is highly serviceable; it diminishes congestion, and renders the attacks of pain less frequent and violent. Employed after attacks of pain it relieves that venous distention occasioned by them, which frequently terminates in hæmatemesis. When the stools are black, or bloody, it is highly useful, frequently changing their character by diminishing the congestion or inflammation in the stomach, and checking the exhalation of blood from the ulcerated surface. Hæmatemesis frequently relieves all the symptoms of ulceration, sometimes for weeks; but we must recollect a patient may die, and commonly does die during the attack; these efforts of nature therefore should be imitated by the employment of means likely to bring about the same result. If the epigastrium be indolent, and the stools natural, or nearly so, the next remedy of importance is counter-irritation, by blisters, the antimonium tartarizatum, or other remedies; this should be persevered in constantly, and unceasingly

as long as disease remains. I do not think setons productive of much good. I have seen them useless where repeated blistering has afforded great relief. Fomentations laid on the epigastrium and kept on for several hours, sponging this region night and morning with very hot water, reposing in a tepid bath for a considerable time daily, are all remedies that may be employed with advantage. The patient is always worse during constipation; the bowels are best regulated by enemata. If aperients be given they should be of the very mildest character; a few grains of rhubarb with a tenth or twelfth of the muriate of morphia—the ponderous carbonate of magnesia prepared by Henry or Howard, administered in some infusion of orange-peel, or mint tea, are remedies sufficiently active; the common magnesia is worse than useless. After cicatrization has even taken place all active purgatives should be avoided. M. Cruveilhier records a case of rupture of a cicatrix from violent aperients administered to relieve an apoplexy. The violent peristaltic action of the stomach induced by the aperient had ruptured the cicatrix of an ulcer. Internal remedies are exhibited in ulceration of the stomach with several objects. To relieve pain, to facilitate cicatrization, to check the oozing of blood from an ulcerated surface, or lastly to remedy some general constitutional weakness or irritability which appears unfavourable to the healing of the ulcer.

To answer the two first indications minute doses of morphia may be administered with the trisnitrate of bismuth. The nitrate of silver, first proposed by Dr. James Johnson, will be found very serviceable with this view. The sulphate of iron also may be employed; there is sometimes a sponginess of texture in the mucous membrane in long continued cases of ulceration when these latter remedies are highly beneficial. There is occasionally also a great degree of debility, of languor, of laxity of tissue accompanying ulcer of the stomach, in which the exhibition of tonics becomes necessary, and in such forms of disease the carbonate of iron, or even the mistura ferri. comp. are employed with great benefit. Every thing that affects the constitution generally has an effect upon the healing of the ulcer, and hence the condition of the health generally demands our strictest watchfulness; the functions of the skin; the state of the bowels; the urine; the epigastric region all demand unceasing attention. I would impress upon the reader that ulcers of the stomach commonly cicatrize, as the state of the general health under which they first made their appearance improves. It is true that they more immediately depend upon the pathological condition of the stomach, but this is most commonly the result of general constitutional causes.

The great difference which exists between the treatment of ulcer of the stomach in the female and in the male, depends chiefly upon the general condition of the economy in which the diseases separately occur, and the pathologic character thus induced in the stomach in which the disease is seated.—*Ibid.*

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23. *Experiments on the application of narcotics in the form of vapour.*—By C. W. Hufeland, of Berlin. These experiments were made with hyosciamus, belladonna and opium. The numher of cases given is twelve, of which the first occurred in a servant girl 18 years of age, attacked with epilepsy, the result apparently of impeded menstruation. The first employment of the bath had the effect of inducing a paroxysm. The second was attended with more favourable effects; and the daily repetition of the remedy for two months, removed all disposition to the convulsive attack, and left the patient in a state of comparative comfort, interrupted only by occasional paroxysms of pain in the neck and breast.

The second case was also epilepsy, occurring in a young woman of 20, and which had commenced a year and a half before, in consequence of a fall in the water. After a period of apparent remission, the fits returned with increased violence; and from the 16th of July to the 1st of August, the number of attacks was not less than five. From this time the patient was subjected to the daily use of the narcotic vapour bath for 15 minutes, and at the end of 84 days from the commencement of this course, had had no attack of the complaint.

A merchant's clerk, 17 years of age, of feeble constitution, had been affected

with epilepsy one year, in conjunction with nervous fever. The narcotic vapour was tried upon him without advantage.

A young woman of 18 had difficult menstruation, followed by epilepsy and intermittent bronchitis. After several remedies had failed, the narcotic vapour was tried. Each trial brought on a new fit, and was followed by severe pain in abdomen. The remedy was abandoned.

A servant girl, 26 years old, was attacked with epilepsy, after chill and depression of mind. Having suffered under it for six months, she was for three months more subjected to ordinary treatment, but in vain. The narcotic vapour was then tried, but caused much inconvenience, and no benefit.

A servant girl, 20 years old, had been one year subject to epilepsy, the origin of the affection being unknown. After being subjected to other treatment, she was placed in the narcotic bath. The fits, which had recurred three or four times a month, were, after four weeks use of the remedy, suspended for 23 days.

A female servant, 19 years old, previously healthy and of plethoric constitution, was attacked with epilepsy after severe chill. The opiate bath was applied, and for two months she enjoyed an immunity from the disease.

A married woman, 29 years old, had had epilepsy for eight years, that is, since the period of her first labour, the disease was complicated with chorea, and the intellect greatly impaired. The use of the narcotic vapour produced violent paroxysms, and could not therefore be persevered in.

H. A., 16 years old, had suffered from epilepsy since his tenth year. The narcotic vapour was tried, but produced not the smallest effect.

A shoemaker's apprentice, 27 years old, had suffered much from abdominal affections, from which he was relieved by the performance of active military service from 1813 to 1815. A violent exertion brought on hemoptysis, which was followed by epilepsy. He entered the hospital the 17th of September, 1818. After various other remedies had failed, the narcotic vapour was tried. During fifty-two days from the commencement of its use there were two fits; the next thirty-eight days passed without any, and then a slight one followed.

A girl 18 years of age, who had never menstruated, had had epilepsy seven years, which was attributed to a fright. She became idiotic. Among various remedies, the narcotic vapour was tried, but without advantage,

A bookbinder's apprentice, 20 years old, well formed, reported, on his admission to the hospital, that he had an attack of epilepsy fourteen days previous after a chill. The attacks continued after his entrance with great severity. The employment of the bath suspended them for two months in the outset, and its persevering use cured the disease.—*Neue Auswahl kleiner medizinischer Schriften.*

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24. *Heart diseases not seated in the heart.*—HUFELAND thinks that since attention has been directed to the diseases of the heart by Corvisart, Testa, Kreysig, and others, practitioners have been disposed to admit too readily the existence of organic disease of this organ. He thinks that in the great proportion of cases where the heart appears to be affected primarily, the disturbance is of a general character, and with its cessation, the anomalous symptoms exhibited by the heart cease also. The following are the sympathetic heart affections, which have come most frequently under his observation.

1. Sanguineous congestion. One of the most frequent causes of disturbance of the functions of the heart, is the tendency to hemorrhoidal congestion. In some cases the disturbance is occasioned by the interruption of the hemorrhoidal flux; in others, it is the effort of nature to bring about the discharge, by which the circulation is rendered more active. If then the force of the blood be thrown upon the lungs, asthma, hæmoptysis or pneumonia may ensue; if on the heart, some undue action of this organ is developed, such as without careful attention to the etiology of the case, might be supposed to be idiopathic. In such cases the best cure of the heart disease, is to apply leeches to the anus, to use cooling diet, cold water in abundance, moderate exercise and laxatives.

A man 40 years of age, of tolerably robust constitution, who had had bleeding, and afterwards dry piles, and with whom both had recently disappeared, began

to exhibit symptoms of heart disease, which now, for a year, had reached a degree of intensity which excited suspicion of organic change: the more as his occupation required strong muscular exertion. His heart beat constantly with violence, his breath was obstructed; with every motion the difficulty increased, the pulse was irregular; he had attacks of vertigo, and was unable to lie upon his left side. After trying various remedies to little purpose, he came to Dr. Hufeland. Doctor H. recognised it as a case of obstructed hemorrhoids, directed leeches to the anus, mustard pediluvia and cathartics. Under this treatment the disease gradually yielded, and, at the end of four weeks, he was fully restored.

A man 50 years of age, of tolerably robust constitution, who had often suffered from affections of the liver, and from hemorrhoids, was seized with palpitation, which at length became constant, and attained such a degree of intensity that it impaired his respiration, caused vertigo and great anxiety, and was so oppressive in lying, as to deprive him of sleep for whole nights. At length the ribs of the left side were evidently protruded, so that no doubt seemed to remain of the actual enlargement of the organ. Blood letting, digitalis, and cold applications to the surface, afforded only partial relief. At length the plan was tried of leeches to the anus and aloetic purging, and under this treatment the patient recovered.

2. Nervous or adynamic heart disease. It is matter of familiar observation that palpitation, anxiety, irregular pulse, belong to the common signs of hypochondria and hysteria; and they may attain such a degree of severity and constancy as, by the inexperienced, to be readily mistaken for idiopathic and organic heart disease. If under this supposition they are treated with blood letting and reducing remedies, the intensity of the symptoms is inevitably aggravated. Every bleeding increases the palpitation and the anxiety, and this circumstance in connection with the pale urine, the tendency to melancholy, and the more or less periodical character of the attacks, must suffice to open the eyes of the judicious practitioner to the true nature of the affection.

3. Sympathy and antipathy with other organs have a marked influence on the functions of the heart. Especially may this influence be remarked as exerted by the abdominal organs. The ancients regarded the intermittent pulse as an abdominal pulse, no doubt having observed that it is symptomatic of affections below the diaphragm. Flatulence, by distending the abdomen and diminishing the capacity of the chest, is a frequent cause of disturbance of the functions of the lungs and heart.

Enlargement of the liver exerts an important influence on the functions of the heart. Brera regards it as the most frequent cause of heart diseases. Mental affections again have a most important and familiar influence on affections of this organ. Individuals have suffered for years with apparent disease of the heart, simply from being placed under the influence of strong mental excitement, the disappearance of which was followed by the complete relief of every preceding symptom.

4. Metastatic heart disease. The transfer of various imflammatory diseases, particularly rheumatism and gout, from their previous seats to the chest, and the production in this way of severe affections of the heart, has been matter of familiar observation, particularly with English and German practitioners. Dr. H. has seen numerous cases in which the patients were suddenly relieved from gout or rheumatism to be as suddenly the victims of affections of the heart. These affections rarely pass from a functional to assume an organic character. The functions of the organ continue to be disturbed for a greater or less period, but it is only in cases where these derangments are unusually prostrated, that any serious affection of the organ follows.

A boy, 14 years of age, was attacked with severe palpitation, accompanied with dyspnœa and some protrusion of the ribs of the left side. On inquiry, it appeared that he had been affected severely two years before with scabies, which had disappeared under the use of external application. Sulphur, digitalis and calomel were now ordered internally, a blister was placed on the region of the

heart, a cataplasm of mezereon bark applied to the left arm, and thus a purulent discharge kept up from both surfaces. By these means a visible amendment was produced at the end of fourteen days, and, in six weeks, the cure was complete.

Thus far our author. It is scarcely necessary to add, that the improvements in the physical exploration of the chest, a subject which had excited little attention in Germany at the time this essay was written, have removed many of the sources of doubt and uncertainty which have heretofore existed, and made it far more easy to avoid the error of confounding functional with structural disease. Caution, however, is still needed, and the suggestions of Dr. H., if neither very novel or profound, will yet be acknowledged to be the result of careful observation, and to deserve for their honesty of purpose the respect of the profession.—*Ibid.*

SURGERY.

25. *Encysted Dropsy of the Thyroid Gland.*—Upwards of twenty years ago Professor Maunoir of Geneva described a disease bearing a great resemblance to bronchocele to which he gave the name of hydrocele of the neck; and he recommended for its cure the puncturing of the tumour, and after evacuating its contents, the insertion of a seton through it. Three cases are related in which these means of treatment were successful. (See this Journal for Feb. 1836 p. 507.)

In a paper on the treatment of hydrocele in St. Thomas's Hospital Reports, (Nov. 1835) Mr. Green extols the efficacy of the seton in the disease we are noticing. (See this Journal for Aug. 1836, p. 521.)

Dr. Selwyn of Cheltenham in a memoir in the *Lancet* (15 Dec. 1838) states that he has treated "at least a dozen cases with invariable success" by means of the seton.

Dr. Selwyn's claims to the discovery of the existence of such a disease as encysted dropsy of the thyroid gland and of originality in his method of treating it we need not discuss, after what we have already said. His testimony to the value of the seton as a means of cure is however worthy of being recorded.

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26. *Division of the Prostate in Lithotomy.*—H. M. Phillips, Esq. Assistant surgeon to the Royal Cornwall Infirmary, strenuously recommends the following modification of the above operation, as diminishing the risk of life usually attending the lateral operation of lithotomy; viz.—hemorrhage, puncture of the rectum, peritoneal inflammation, with purulent deposit about the neck of the bladder; and infiltration with its consequences.

"Having introduced a straight grooved staff into the bladder, and having reached the membranous portion of the urethra by the usual incisions on the left side of the perineum, I cut into the groove of the staff. The staff being still firmly held by an assistant, I introduce the nail of the fore finger of the left hand into the groove, then insert the point of the knife, also into the groove in advance of the finger, its flat surface resting on and parallel to the plane of the nail; both are then carried steadily onward until the knife enters the bladder, indicated by the gush of water; it is then withdrawn, and the *finger* alone is pushed firmly and fairly into the bladder. The forceps is then introduced upon the finger (the best director in all operations), and the stone is embraced.

"It will be seen that the principle acted upon here is the same as that which proved so successful in the hands of Cheselden, and was so warmly commended by Sir Astley Cooper; namely, the partial separation of the upper from the lower portion of the prostate gland with the knife, completing the separation to the necessary extent without a cutting instrument. Cheselden used for this purpose the blunt-curved gorget, I use *the finger*. And I do declare, having tried this method on the adult, I have found no difficulty whatever in enlarging the opening sufficiently, by simply protruding the finger into the bladder, which is accompanied with the sensation of a slight tearing.

"The advantages of this mode of operating are—the certainty of avoiding hæmorrhage, or of puncturing the rectum, and the equal certainty of being able to make the opening into the bladder large enough, to extract the stone, and no larger. I may add, that I never yet found any perineum too deep to prevent my enlarging the section of the prostate with the finger; and I am quite satisfied that any lithotomist who may adopt this method will not readily abandon it. —*London Med. Gaz.* 15 Dec. 1838.

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27. *Fearn's case of Aneurism of the Innominata, treated by ligature of the Carotid and Sub-clavian arteries.*—The *Lancet*, of 15th Dec. 1838, contains the termination of this case, of which the early history was given in our Nos. for Feb. 1837, (p. 522) and Feb. 1839, (p. 498). The patient died after ten days illness, of pleuritis, Nov. 27th, 1838.

Mr. Fearn states, that the necropsy disclosed the following appearances: "The whole surface of the body was of an intense yellow colour, indicating at once the existence of jaundice: there was much subcutaneous fat. On opening the chest, the lungs did not collapse; this was owing, chiefly, to recent pleuritic adhesions on the right side, and to adhesions of longer standing on the left; the left lung was crepitant and healthy; the pleural membrane covering the middle lobe, and the lower and posterior surfaces of the upper lobe of the right lung, was larded over with recent lymph, and the membrane was also red and vascular; the corresponding portions of lung were solid, exuding a bloody fluid of a muco-purulent character, and presented an example of the red hepatisation. The lining membrane of the windpipe and larger bronchial tubes was healthy in appearance; there was no water in the pericardium or pleural cavities. The heart was very unusually fat for the age of the patient (30 years); its valves, both auriculo-ventricular and semilunar, were healthy; the inner surface of the whole of the arch of the aorta was studded with small cartilaginous and ossific patches. The innominata alone was the seat of the aneurismal disease; it presented a globular tumour, an inch and a half in diameter, pressing upon the front and right lateral portion of the trachea, about an inch above its bifurcation, so as to lessen its diameter about one-third; this tumour, with the exception of a channel of the usual calibre of the innominata, was completely filled with a dense, organized, light-coloured fibrinous coagulum. The coats of the diseased artery had given way on their external and posterior wall; the right common carotid was permeable for about a third of an inch from its origin, and opposite the lower margin of the cricoid cartilage there was an interruption to its continuity where the ligature had been applied in the first operation. The separated portions of the vessel, which were distant from each other the fourth of an inch, were connected merely by cellular membrane; the upper portion of the vessel was impermeable to where the external carotid was given off; the right side of the thyroid gland was much larger than the left, owing, probably, to its increased nutrition from the enlargement of the inferior thyroid artery, in carrying on the collateral circulation; the subclavian artery was healthy; the branches of the thyroid axis were considerably enlarged; the main trunk was severed just at the external margin of the anterior scalenus, in the same way as the carotid. In the abdomen we found the liver harder than usual, and of a lighter colour; the gall-bladder was very much distended with bile; the stomach and intestines healthy; the kidneys presented an example of Bright's disease; they had a mottled appearance, showed much fat when cut through, and the secreting portions of the organs were almost entirely absorbed, the tubuli extending to their surface. There were numerous extravasated spots of blood upon the lining membrane of the pelvis of each kidney; there was nothing else worthy of observation.

"If we take into review the whole of the circumstances of the interesting case which has thus terminated, we cannot but arrive at the conclusion, as I observed in my last communication upon it, that the steps which were adopted for the relief of the patient were the means of saving her from an otherwise inevitable death; and we may further affirm, taking into account the post-mortem

appearances above recorded, that the distal operation for aneurism of a vessel so near to the heart even as the innominata, is abundantly sufficient for its cure. It is quite true, that in this case a considerable tumour remained after the operation, but the previously existing sac was so completely blocked up with the dense coagulum which Nature had employed for the cure, that there was no longer any risk of death from its rupture. Had the patient escaped the casualty which led to her death, and lived but a few years longer, it is more than probable, looking to what occurs in aneurisms seated externally to the great cavities, where a ligature has been employed, that the tumour, in this instance, would have disappeared entirely. I saw a case, a few years back, of aneurism at the bend of the arm, produced by bleeding, which was treated by ligature of the brachial artery; the tumour, at the time of the operation, was as large as a man's fist; but though the progress of the disease was arrested by the operation, two years elapsed before the swelling was entirely dissipated. All this is owing, no doubt, to the imperfect state of organization of the mass of coagulum, and to the almost total absence of absorbent vessels.

"It may not be amiss to mention, that the patient lived two years and three months after the ligature of the carotid, and sixteen weeks and five days after the subclavian had been tied."

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28. *On the cure of wry neck by dividing the sterno-cleido-mastoid muscle beneath the skin.*—By Prof. Dieffenbach of Berlin. The cure of wry neck, by dividing the sterno-cleido-mastoid muscle beneath the skin, is the ingenious invention of Dupuytren. Eight years ago I communicated some favourable results of my experience in this operation in "Rust's Surgical Cyclopædia," Vol. III., page 623, in the article *Caput Obstipum*, and since that period I have had many opportunities of repeating it, more especially since Stromeyer, by his admirable operation on club-feet, directed our attention to the division of other contracted tendons and muscles. The advantages of this mode of operation by a small punctured wound, consist in obtaining a quick and durable cure, and in avoiding an ugly cicatrix, which generally produces new contractions. The former method which, consisted in exposing the lower part of the contracted muscle, making an incision through the integuments and dividing the muscle on a director, requires a long after-treatment. In this case the cicatrix uniting the ends of the muscle adheres to the cicatrix of the skin, and an obliquity in a higher and much less curable degree takes place. In the old operation it sometimes happened that the pus found its way to the anterior mediastinum, or the whole cellular tissue of the neck sphacelated, and a relapse of the contraction, or death followed. The new operation of Dupuytren was at first received with enthusiasm, and everywhere adopted. It is remarkable, however, that in France it was nearly forgotten until very lately revived by Guerin, Bouvier, and Duval.

The instrument which I use in this operation is a very narrow falsiform knife. The patient is placed in a chair; one assistant draws the head to the opposite side, and another depresses the shoulder of the affected side; by this means the muscle is rendered more prominent. I now pinch up the skin and muscle, with the thumb and index-finger of my left hand, and insert the knife, under the muscle, then turn the edge of the knife towards the muscle, until the point reaches the skin on the opposite side, which, however, is not pierced. While drawing out the knife, pressure by the thumb of the same hand is employed, and the muscle is divided. At the moment of the division a dull, soft, cracking noise is generally heard, produced by resonance of the thorax, and sometimes this noise is very loud. The best place to insert the knife is in the triangular space between both portions of the muscle, half an inch above their insertions. If operating on the left side I divide from this point the anterior portion, and then, in an opposite direction, the posterior one. At the right side I introduce the knife between the trachea and the anterior portion of the muscle, and after having divided the latter, I cut the posterior part if required. At the moment of drawing back the knife through the punctured wound I quickly press with the thumb upon the spot to prevent an extravasation of blood beneath the skin; I cover it

with a solid dossil of lint and straps of adhesive plaster, and then apply a bandage. Two neckhandkerchiefs serve to support the head in the former oblique direction, without straightening it. This is done partly to prevent a collection of blood, and partly to promote the union of the divided muscle. The patient is ordered to keep quiet, in a horizontal position in bed, and to take a mild antiphlogistic diet.

In most cases the wound heals very quickly. At the place of a divided muscle a swelling is commonly found; sometimes a fluctuation is felt, owing to a collection of blood. In the latter case the plasters are again applied more firmly, to accelerate the absorption, and this has soon the desired effect. Lukewarm lotions, and frictions with warm oil, are sufficient to cause the absorption of any tumefaction which may remain. If suppuration takes place, the pus should be evacuated by an incision and simple dressing applied. The following cases, however, will show how rarely this is met with.

In my first cases, and in those in which the vertebræ of the neck were very much displaced laterally, in consequence of the muscular contraction, I used to extend the neck gently some weeks after the operation upon the extending bed, or with Glisson's swing, in a sitting posture. More recently, however, I confined myself almost exclusively to a collar half the breadth of the neck, made of pasteboard enveloped in thick cloth, which forced the patient to bend the neck to the opposite side. I found the latter of more use than violent extension, which only inclines the muscle to react, makes it tender, and therefore must be removed, in consequence of which the head again inclines to the affected side.

I will now detail some cases in which the operation was performed with the best results:—

Case 1.—Charles Meir, tailor, 24 years old, suffered from a shortening of the right sterno-cleido-mastoid muscle. From his thirteenth year he wore an iron instrument, but the obliquity of the neck increased, and he was obliged to leave it off. I divided both insertions of the muscle at separate times. I supported the bandage above-mentioned by a spica humeri. No extravasation of blood nor suppuration followed. The patient was confined ten days to bed, and I afterwards extended the neck gently for a time. The cure was completed in three weeks, and the patient's neck became perfectly straight.

Case 2.—The son of the Councillor Dorn, five years old, was born with a shortening of the right sterno-cleido-mastoid muscle. Machines had been applied without any benefit. I divided both origins of the muscle. The hemorrhage from the wound was so profuse that the patient fainted. I used the same bandage; there was no extravasation of blood, no suppuration, and the cure was complete at the end of the third week.

Case 3.—A relation of the above-named boy, living in the same family, eighteen years old and tall, was also afflicted with a considerable shortening of the right sterno-cleido-mastoid muscle, so that the head could only be moved from the right shoulder to the extent of half a hand's breadth. The division of both heads of the muscle occasioned a very loud cracking noise, partly arising from the strong extension, partly from the meagreness of the young man. Scarcely a drop of blood was shed; the wound healed in a few days, and in four weeks the young man was perfectly cured.

Case 4.—A. Köpfer, of Frankfurt, six years old, afflicted with contraction of the right sterno-cleido-mastoid muscle, had been treated with machines two years without success. I divided the muscle. The wound healed in three days. Eight days after the operation the child was sent home perfectly straight.

Case 5.—F. Striech, a stout boy, ten years old, had a strong contraction of the right sterno-cleido-mastoid muscle. The whole muscle projected like a hard, tendinous ligament, and the head was very oblique. The divided parts separated with a loud cracking noise. The wound closed in a few days, and the patient was cured by the use of a swing, and by a bandage round the neck.

Case 6.—The Baroness de Schalten, eleven years old, afflicted with contraction of the right sterno-cleido-mastoid muscle, had for a long time tried gymnastics, but had not used a machine. I divided both portions of the muscle: the

lady was kept quiet during eight days; afterwards the ordinary bandage was applied, and she was perfectly straight at the end of the third week.

Case 7.—F. P. Pietish, three years old, affected with shortening of the anterior portion only, was perfectly cured in five days. In this case it was not even necessary to employ a bandage.

Case 8.—The daughter of a servant of Mrs. Scholz, five years old, was born with a strong contraction of the right sterno-cleido-mastoid muscle. The treatment did not differ from that already described, and the cure was perfect in the second week.

Case 9.—C. Schmidt, five years old, suffered from a strong contraction of the sternal portion of the right sterno-mastoid muscle. He was discharged nine days after the operation perfectly cured.

Case 10.—Mr. Eben, nephew of the private Councillor Bethe, at Berlin, was born with a shortening of the right sterno-cleido-mastoid muscle, and in his twenty-second year was much disfigured by a great degree of obliquity. I divided both portions of the muscle. The noise produced was so loud, that I was startled. In three weeks the cure was complete, and the young man perfectly straight.

Case 11.—C. Sponholz, from Saxony, ten years old, was affected with a strong contraction of the right sterno-cleido-mastoid muscle, by which the head was closely approximated to the shoulder, and at the same time displaced towards the vertebral column. This boy was discharged perfectly cured, on the twelfth day after the operation.

Case 12.—Augusta Lienig, fifteen years old, distorted, meagre, scrofulous, with a contraction of the right sterno-cleido-mastoid muscle like a fork. I divided them from one point. A fortnight afterwards the girl was perfectly straight.

Case 13—was that of a boy six years old, the son of a carpenter, with a contraction of the right sterno-cleido-mastoid muscle. The anterior portion only of the muscle was divided, and by this means the obliquity was removed. The bandage employed was the common one; the child was confined to bed during eight days; two days afterwards the cure was complete.

Case 14.—Maria Schoenig, an amiable girl, eleven years old, affected with a congenital contraction of the right sterno-cleido-mastoideus, affecting, however, only the posterior portion of the muscle, was perfectly cured by division in twelve days. The dressing was the common one, and, as in the foregoing cases, no suppuration took place.

Case 15.—Charles Von Schack, son of the Chamberlain Von Schack, of Mecklenburg, was born with a contraction of the right sterno-cleido-mastoideus. Every thing had been done to cure him, but in spite of treatment the muscle could not be extended. I divided both the contracted portions, a difficult task, on account of the liveliness of the child. Some days afterwards a fluctuation from extravasation of blood in the wound was perceived; a strong compression, however, produced absorption. The boy became quite straight, and left Berlin in six weeks after the operation.

Case 16.—Miss Roeser, twenty-three years old, suffered under considerable obliquity of the neck, towards the right side. I divided both portions of the sterno-cleido-mastoideus, which separated with a cracking noise. The usual dressing was employed; a little extravasation took place, but was soon absorbed.

Case 17.—The subject of this case was six years old; I divided the anterior and posterior portions of the right muscle; and a fortnight after the operation the head was perfectly straight.

Case 18.—The boy Moll, four years old, affected with contraction of the right sterno-cleido-mastoideus, was discharged a fortnight after the operation, perfectly cured.

Case 19.—Jeshlin, fourteen years old, was afflicted with torticollis in a great degree, so that the head almost touched the shoulder. The treatment, after the operation and simple dressing, was that usually adopted. On account of the

great degree of obliquity, it became necessary to turn the head to the opposite side soon after the operation. This gave rise to inflammation, and a large abscess formed. This was accompanied by fever, with nervous symptoms. The abscess was lanced, poultices were applied, and a simple treatment adopted, by which the fever subsided, and in six weeks the patient was perfectly well and straight.

Case 20.—In a boy, aged eighteen months, from the country, affected with strong contraction of the right sterno-cleido-mastoideus, I divided the anterior portion of the muscle. A strip of adhesive plaster and a neckerchief were sufficient to effect a cure. This shows that in very young children even the pasteboard is superfluous.

Case 21.—C. Kiesling, six years old, affected with strong contraction of the left sterno-cleido-mastoideus, was discharged perfectly well four weeks after the operation.

Case 22.—A boy, five years old, was born with considerable shortening of the right sterno-cleido-mastoideus; the division of both portions perfectly removed the complaint. A fortnight after the operation no farther after-treatment was necessary.

Case 23.—The daughter of a merchant, nine years old, had been treated by machinery for a long time, for extreme contraction of the right sterno-cleido-mastoideus and distortion of the upper part of the spine. I divided both portions of the muscle, and, after having closed the wound, employed Glissou's swing. After four weeks the head was perfectly straight.

Case 24.—The son of the apothecary Ehrhard, fourteen years old, suffered under the highest degree of contraction of the right sterno-cleido-mastoideus and distortion of the upper part of the vertebral column. I divided both portions of the muscle, but the obliquity was not entirely removed; and, even after the most careful treatment during seven months, I did not succeed in making the head quite straight. I shall operate again, as the muscle has become tense, especially at the posterior part.

Case 25.—The son of Bückling, carpenter, six years old, affected with contraction of the right sterno-cleido-mastoideus, was perfectly cured in a fortnight, by dividing both portions of the muscle.

Case 26.—Mr. Dohm, student of divinity, was so disfigured by contraction of the right sterno-cleido-mastoideus, that it would no doubt have prevented him from pursuing his professional duties. I divided both portions of the muscle; and the operation, after a few weeks, was perfectly successful.

Case 27.—The son of Mr. Werkenthin, three years old, was affected with a contraction of the right sterno-cleido-mastoideus. In presence of the Councillor of State, Arndt, I divided both portions of the muscle, only a few days ago, and he will be cured in a short time.

Case 28.—A young man, thirteen years old, apprenticed to a tailor, was perfectly cured, in a fortnight, by division of the anterior portion of the right muscle.

Case 29.—Maria Wolgast, eleven years old, daughter of a smith, and a very intelligent child, was born with contraction of the left sterno-cleido-mastoideus. Machines had been used during several years, without any success. I divided both portions of the muscle, and the recovery was so quick, that on the ninth day the child might have been considered as perfectly straight.

Case 30.—Maria Helucke, eight years old, was born with contraction of the left sterno-cleido-mastoid muscle. Her five sisters and brothers had all suffered under the same complaint; four of them died, and one brother was greatly disfigured by an extreme degree of the disease. The surgeon of the staff, Mr. Müller, divided the sternal portion of the muscle in the girl, and immediately after the operation the head became straight. The dressing and after treatment which was employed, did not differ from that already described. The cure was complete on the third week.

Case 31.—I performed the operation on her brother Charles, twelve years of age, immediately afterwards, by dividing portions of the contracted muscle. This

case was one of extreme difficulty. The head almost touched the shoulder, and the contraction of the muscle was uncommonly strong. At the same time the cervical vertebræ were distorted laterally. After the operation a considerable effusion of blood ensued, and the fluid became decomposed. The abscess was opened by a small incision, after which the cure was soon completed.

Case 32.—A boy, twelve years old, was afflicted with strong contraction of the right sterno-cleido-mastoideus, by which the head was drawn close to the shoulder. The vertebræ of the neck likewise deviated from their normal direction. Von Graefe had divided the muscle, but by laying it bare before the operation, according to the old and absolete method. After the wound healed, a new contraction of the muscle ensued, and required another operation. This was done by the same surgeon likewise after the old method. He applied extension, but without success. According to the account which was given by the father, the duration of this long though unsuccessful treatment was three months. On being called in, I found the sterno-cleido-mastoideus strongly contracted, and very hard at the lower part, a circumstance produced by the cicatrices; on bending the head to the opposite side, the lower part of the muscle, where it had been divided, did not project, as it was bound down by indurated cellular tissue. It became most prominent in its middle part. Here I divided the muscle completely across, by inserting the knife at its posterior margin, then carrying it under the muscle, and drawing it back again without injuring the skin; no extension was employed. The patient was able to leave the room five days after the operation. No extravasation of blood or suppuration took place; the vertebræ of the neck remained a little oblique; this, however, gradually ceased.

Case 33.—Charles Lehmann, nine years old, born with a contraction of the left sterno-cleido-mastoideus, and considerable distortion of the vertebræ of the neck. I divided both portions of the muscle. No accident followed, and the cure was complete in eight weeks.

Case 34.—Maria Weber, aged eighteen months, was afflicted with contraction of the right sterno-cleido-mastoideus and curvature of the vertebræ of the neck. I divided both portions of the muscle, and the cure was complete in four weeks.

Case 35.—Miss Epner, of Potsdam, thirteen years old, was born with contraction of the right sterno-cleido-mastoideus. She had been treated by machinery, but without success. I divided both portions of the muscle, and a perfect cure was obtained in a fortnight.

Case 36.—Albert Wreske, of Brandenbourg, was born with contraction of the left muscle. The consequence was a well-marked curvature of the vertebræ of the neck. The weakness of the young man had always presented an obstacle to all former treatment; a perfect cure was obtained in four weeks.

Case 37.—Maria Zimmer, nine years old, affected with congenital contraction of the left sterno-cleido-mastoideus. I divided both portions of the muscle, and a perfect cure was the result.

Remarks.—Of thirty-seven cases operated upon none died, but all, with the exception of one, were perfectly cured. This one requires a second operation, which will be trifling. On one occasion only, severe hæmorrhage took place, but without any bad consequence; and in another the formation of pus rendered some precautions necessary.

In all the individuals submitted to my care I have observed some obliquity of the face; the side at which the musculus sterno-cleido-mastoideus was contracted, was always drawn downwards, and the other appeared somewhat higher; the eyelids, angle of the mouth, and the wings of the nose were drawn downwards. In young children, and where the disease is milder, the face often becomes straight in a few weeks after the operation. In adult persons, and in the more important forms of the disease, the bones of the head and of the face are implicated, and months, or perhaps years, are required to restore the natural appearance of the face. In those cases where the vertebral column is deviated, the restoration of the head to its upright position forces the spine to become straight, in order to preserve the equilibrium of the body.

Of the whole number of cases, contraction of the left muscle existed only five times. In all the others it existed on the right side. The reason of this could not be sought in the generally stronger development of the right side of the body, and in the greater use of the right arm, as the children were either born with contraction of the muscle, or the obliquity was observed in the tenderest age.

These cases show that the division of the muscle with *the preservation of the skin covering it*, deserves to be preferred to the old method, in which an extensive incision of the skin is made; even in one case it was successful after Baron Van Graefe had operated twice according to the latter method.

I am much indebted to Drs. Böhm, Berendt, Reich, Holthoff, and Mr. Hildebrandt, for their indefatigable care and skill in the after-treatment of these cases, by which alone these favourable results could be obtained, and in comparison to which the act of the operation itself is very unimportant.—*Lancet*, Sep. 22 and 29, 1838.

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29. *Hydrocele.*—M. Dujat in a memoir in the *Gazette Médicale de Paris*, for September last, gives the following interesting table of the cases of hydrocele, treated with iodine injections, at the Native Hospital of Calcutta, from the 1st of January, 1836, to the 5th of January, 1838. The table is compiled from the registers of the hospital, which were kindly furnished to him for the purpose, by Mr. J. R. Martin, the original proposer and advocate of this mode of treatment.

AGE.	Right Side. Quantity of liquid in tunica vaginalis.								Left Side. Quantity of liquid in tunica vaginalis.								Cases of Double Hydrocele.	Total number of Cases.
	Less than 10 ounces.	From 10 to 19 ounces.	From 20 to 29 ounces.	From 30 to 49 ounces.	From 50 to 79 ounces.	From 80 to 99 ounces.	From 100 to 120 ounces.	Total.	Less than 10 ounces.	From 10 to 19 ounces.	From 20 to 29 ounces.	From 30 to 49 ounces.	From 50 to 79 ounces.	From 80 to 99 ounces.	From 100 to 120 ounces.	Total.		
From 18 to 21	10	4	"	"	"	"	"	14	6	5	"	"	"	"	"	11	16	41
From 21 to 25	29	11	7	4	"	"	"	51	32	13	11	"	2	"	"	58	64	173
From 26 to 35	50	44	38	13	2	"	"	147	55	45	29	13	"	2	3	147	179	473
From 36 to 45	18	24	17	12	1	"	"	72	23	23	34	9	5	1	"	95	90	257
From 46 to 59	5	6	4	2	"	"	"	17	"	1	4	"	"	1	"	6	20	43
From 60 to 70	"	2	1	1	"	"	"	4	"	2	1	4	1	"	"	8	1	13
	112	91	67	32	3	"	"	305	116	89	79	26	8	4	3	325	370	1000

The injection recommended by Mr. Martin is composed of one part of the tincture of iodine (of Majendie) and three of water, and the quantity of this to be made use of varies with the size of the tumour. For hydroceles containing from 6 to 30 ounces of liquid, two drachms are sufficient; for those containing from 30 to 60 ounces of liquid, three drachms; and from four to five drachms are required for those of a larger size. When the hydrocele contains less than 3 ounces, one drachm of the injection is sufficient. It is the very small quantity of fluid injected, and the retention of it in the cavity of the tunica vaginalis, which characterises the method of Mr. Martin. See the Numbers of this Journal for Nov. 1837, p. 258, and Feb. 1838, p. 484.

30. *Dislocation of the Radius forwards.*—An example of this rare accident is recorded by Mr. Coley, in the *Lancet*, (10th Nov., 1838). It occurred in a boy 10 years of age, and was caused by a fall from a horse. The elbow came, with great force, in contact with a stone on the road, which fractured the internal condyle of the humerus, and forced the upper head of the radius forwards over the outer condyle. The forearm was semi-flexed and the hand prone. The radius admitted of rotation, and its dislocated head could be seen in motion at the same time in its new situation: the forearm could neither be bent nor rendered straight beyond a certain point. There was a puckering of the integuments just above the dislocated head of the radius, and the fractured condyle was felt projecting below; so that, at first sight, the displacement appeared to be lateral.

The accident having occurred two days before I saw the patient, the parts adjoining the injury were swollen and inflamed. Extension, according to Sir Astley Cooper's directions, was tried without success. I then placed the arm over the back of a chair with the external condyle uppermost, and confining it in this situation by an assistant, I bent the forearm downwards, gently extending the hand at the same time, and thus readily replaced the head of the radius.

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31. *Extirpation of the Tongue.* By M. Regnoli, Professor of Clinical Surgery at Pisa.—A young girl, ætat. 14, of a scrofulous constitution and not regular, was admitted into the wards of M. Regnoli, April 29th, 1838, for a disease of the tongue. Upon examination, a tumour of the size of a hen's egg was observed on this organ, extending from its anterior third to its base, and filling up all the posterior part of the mouth and the throat. Its posterior limit could not be discovered. The external edge of the tongue was healthy for the breadth of two lines. The finger carried to the posterior part of the mouth showed the tumour to extend to the base of the tongue. The whole thickness of the tongue was comprised in the tumour. The surface of the tumour was granulated in several points and bled during mastication and after examinations with the finger. The blood spirted at times as from an artery. The mass was rather hard than otherwise, was wrinkled and not painful to the touch. Mastication, deglutition, speech and respiration were so difficult, that the patient was often threatened with suffocation. The intelligence of the patient being very limited and her speech difficult, it was impossible to learn much in regard to the history of the tumour, but it was ascertained that she had begun to speak with difficulty two years previously. Although it had been satisfactorily ascertained by the touch, that no liquid was contained in the tumour, yet M. Regnoli judged it proper to make an exploring puncture into it with a cataract needle: from this nothing but blood was discharged.

Operation.—On the 18th of May, the patient being seated and the head supported upon the breast of an assistant placed behind her, an incision was made in the direction of the median line extending from the symphisis of the chin to the os hyoides. Two other incisions departing from this were then made, one to the right and the other to the left, commencing at the upper extremity of the first incision and extending in the direction of the base of the lower jaw to the anterior edge of the masseter muscle, care being taken not to wound the facial artery. From these three incisions there resulted a wound of the form of the letter T and consequently two flaps. These two flaps comprising the skin, cellular tissue, and the platysma hyoid muscle were dissected back and the muscles beneath laid bare. The operator then plunged a straight bistoury from below upwards, behind the symphisis of the skin, dividing the attachments of the genio-hyoid and genio-glossus muscles, perforating the mucous membrane of the mouth and causing the point of it to appear behind the incisor teeth. A blunt pointed bistoury was then introduced into the same opening from below upwards, and the attachments of the digastric and mylo-hyoid muscles and of the buccal mucous membrane divided, first on the right, and afterwards on the left side as far as the anterior half arches. But three or four vessels required

ligature. The tongue was not forcibly retracted, an occurrence which the operator was prepared to meet. The floor of the mouth being largely opened by the incisions, the end of the tongue was seized with the forceps of Museux and drawn downwards through the opening on the anterior part of the neck. The tongue was then seized with the fingers and drawn out so as to expose the whole tumour. The base of the tumour was encircled with several ligatures in order to prevent hæmorrhage from the lingual arteries. To do this a long curved needle was passed in the muscular mass on the left resulting from the division of the mylo-hyoid, genio-hyoid muscles, &c. In this ligature *en masse* the lingual artery was comprised. A second ligatnre was passed at the posterior part of the tumour, including therein the substance of the tongue parallel to the os-hyoides. The right lingual artery was secured *en masse* in the same manner as that on the left side.

After having included in ligatures the whole circumference of the tumour, all the parts beyond were removed by repeated cuts with the scissors. At each cut but a few lines of tissue were divided. in order that any arteries which might spring, could be tied as soon as divided. No vessel, however, required the ligature, and the diseased mass was entirely removed without any difficulty. A small cautery was applied to the stump in order to arrest completely a slight oozing of blood from it, the ligature which had been passed parallel to the os-hyoides having become loose under the action of the scissors.

The stump was afterwards re-introduced into the cavity of the mouth. Not a drop of blood was thrown out into the glottis. The external wound was but partially closed, and the ends of the ligatures were left hanging out, in order that the discharge from the parts might be facilitated. The diseased mass included almost the whole of the tongue and the tumour. The latter was of a fungus nature, whitish and apparently scrofulous.

After the operation, small pieces of ice were directed to be held in the mouth. Violent reaction followed, for which she was bled. On the fourth day the dressings were changed: healthy suppuration. On the eighth day, union was beginning to take place. The 3d of July, the floor of the mouth was completely cicatrised: food and drink were swallowed as well as if the tongue existed. The hyoidean stump had considerably increased in size, and replaced in part the functions of the tongue. The speech had in a great measure returned, the patient speaking much better than before the operation, and she had regained her flesh and colour.—*Gazette Médicale de Paris*, December, 1838—from *Bullettino della Scienze Mediche di Bologna.*

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32. *Case of Ileus in which Gastrotomy was performed.* By M. Monod, Surgeon to the Hôpital Cochin at Paris.—The patient was a woman ætat. 25, whose general health had been good till one year previous to her entrance into the hospital, though occasionally she had been afflicted with pain at the epigastrium and vomiting. She stated that about one year previously she had received a blow in the ileo-cœcal region. In the beginning of March, 1838, the pain left the epigastrium, and was felt towards the lower part of the right side; and was attended with colic aud diarrhœa, but no vomiting. The third day after this attack, a large hard tumour appeared in the ileo-cœcal region. For two months the diarrhœa continued almost constant; and at the end of that time was succeeded by constipation and vomiting of a greenish transparent matter. Loss of flesh and diminution of strength followed, and on the 8th of May she entered the hospital.

Upon examination the tumour in the ileo-cœcal region was found to be three or four inches in length, and two or three in breadth, ovoid, hard, scarcely sensible on pressure, deeply seated and not moveable. Examination by the vagina and rectum made known nothing anormal in these passages; but a hardness was thought to be felt through their parietes towards the right side of the pelvis.

The treatment, consisting in the application of leeches, emollients, enemas and purgatives was not followed by any benefit.

On the 23d her symptoms were all worse—the character of the matter vomited

was changed, and ultimately consisted entirely of fœcal matter. A pill of croton oil was at last successful in producing stools, and was followed by prompt improvement—the vomiting ceasing, colic disappearing, and the tumour diminishing in size.

1st, 2d. and 3d. of June, constipation attended with severe pains; vomiting of bilious and stercoraceous matters again had place. Purgative enemas without benefit followed by a pill of croton oil gtt. ij.

4*th*, symptoms continue—Ice is applied to the tumour, and is held in the mouth—croton oil repeated—enemas of ice water.

There being no amelioration of the symptoms on the 5th, M. Monod decided upon performing the operation of gastrotomy at the point of obstruction. An oblique incision from two and a half to three inches in length was made in the lower part of the right side of the abdomen, and the muscles carefully divided down to the peritoneum.

This membrame being divided, a loop of intestine presented itself having a band of longitudinal fibres, which caused it to be easily recognised as belonging to the large intestine. This was pushed back into the abdomen, and the fore finger carried deeply into the cavity made known a hard swelling behind and above the cœcum. Another loop of intestine was drawn out, which proved to be the small intestine, and was red and swollen, and did not offer any great sensibility. This was cut with scissors in the direction of its longitudinal fibres to the extent of about an inch and a half. Immediately a large quantity of fœcal matter was discharged which occasioned considerable relief. The intestine was fixed to the edges of the cut by means of sutures, and the wound dressed with cerate and charpie. Death took place on the morning of the 7th. *Autopsy.* Peritoneum much inflamed with a quantity of sero-purulent liquid in its cavity. The incision in the ileum had been made from eight to nine inches above the cœcum. The seat of the obstruction was found to be at the superior and posterior part of the cœcum, at its junction with the ascending colon. When laid open the cœcum showed a contraction so considerable as to admit only of the passage of a female catheter. On a level with this stricture the cœcum was firmly adherent to the parts beneath, and was connected with a very hard, whitish, scirrhus mass of the size of a walnut.—*Archives Générales*, August, 1838.

[The rage for cutting is we know carried by some Parisian gentlemen to a sad height; and this will continue to be the case so long as operations of the most serious nature are performed in their public institutions without previous consultations. We cannot for a moment suppose that a consultation of the surgeons of any hospital in the city of Paris would have sanctioned the above operation. Even supposing that the diagnosis had been correct, and that the case had been one of simple uncomplicated ileus, still the operation would have been entirely unjustifiable.

In connection with the above, we lay before our readers the following statement which has been recently copied into several of our newspapers from their French contemporaries. As yet we have seen no mention made in their medical periodicals of any such decision as that spoken of, though as the statement has been furnished by the well known correspondent of the New York American, we have no doubt of its entire truth. Taking the foregoing case, extracted from one of their most respectable periodicals without a remark, as an example, we think the decision of the council came none too soon. Such an operation should meet with unqualified disapprobation, and no means should be left untried to prevent the performance of them.

"It having been observed that of late years the mortality among the patients upon whom operations have been performed in the hospitals of Paris has greatly increased; the members of the council decided that there should be formed a monthly report of all the operations performed in the hospitals, specifying the nature of the operation, the name of the surgeon who performed it, the number of deaths and cures, and other circumstances. The first report, which has recently been made, shows that some of the operators have lost two, and even three out of five of their patients. At the same time, it is proved that the mortality is less since the establishment of this report." We can readily conceive of a mortality of

three out of five of those operated on, in a service in which gastrotomy is performed for the cure of scirrhous stricture of the intestine. G. W. N.]

33. *Desault's apparatus for fractured femur.*—Dr. Davidson states that Desault's apparatus is generally employed in fractures of the thigh bone in the Glasgow Infirmary; and that as far as his experience goes, it is better calculated to preserve the bones in proper position, and to maintain the proper length of the limb, than the double inclined plane; but in cases where the fracture is complicated with extensive injury of the soft parts, or of the knee-joint, a relaxation of the muscles is of essential benefit in preventing irritation and subsequent inflammatory action.—*Edinburgh Med. & Surg. Journ.* Jan. 1838.

34. *Hydrocele treated by acupuncture.*—Dr. Davidson reports the two following cases of hydrocele treated by him in the Glasgow Royal Infirmary by acupuncture.

"James Snedden, collier, aged 44, was admitted on the 14th of February, 1837. The right *tunica vaginalis* was considerably distended, tense, diaphanous, elastic, and afforded a feeling of fluctuation. He complained only of uneasiness of the loins, caused by the weight of the tumour when standing erect. The swelling commenced about eighteen months ago, but disappeared entirely and spontaneously, according to patient's account, about six months after. The re-accumulation of fluid commenced about a year ago, and the tumour has since then gradually increased in size. A common sewing needle, headed with a little sealing-wax, was introduced into the *tunica vaginalis*, and on withdrawing it, a drop of colourless fluid appeared at the orifice of the puncture. A small piece of plaster was applied over the puncture, and a discutient lotion afterwards to the scrotum.

"On the following day, viz: the 15th, the tumour was found diminished to one-half its former size, and the testicle was found enlarged and indurated. The integuments were flaccid, and had a doughy œdematous feel, from the infiltration of the fluid into the cellular texture. He felt no pain in the parts; and there was not the slightest trace of inflammatory action in the neighbourhood of the puncture.

"On the 16th of February acupuncture was repeated, on account of a re-accumulation of fluid, though the scrotum was still flaccid. On the 21st, the tumour had greatly diminished in size, and there was now no fluid in the lower part of the sac, but there was still some translucency at the upper part around the cord. The puncture was repeated, and the next day the scrotum was perfectly flaccid, and there was no translucency in any part of it.

"On the 1st of March, the tumour was again punctured on account of a re-accumulation, with the result of nearly emptying the sac; but the fluid again collected; and on the 6th March it was again punctured in the region of the cord, transparency and swelling being chiefly situate there. On this occasion, and also in several subsequent punctures, the needle was removed freely about against the internal surface of the *tunica vaginalis*.

"On the 12th, the swelling had diminished less rapidly than before, and there was still some fluctuation. The puncture was repeated. He was now put on calomel and opium, which affected his mouth in about eight days; and the punctures were repeated every four or five days until he left the Infirmary on the 8th of April; but very little change was effected in the swelling, which was now chiefly confined to the neighbourhood of the cord, and was still diaphanous. The enlargement of the testicle, however, diminished considerably after the operation of the calomel and opium.

"James Kelly, aged 21, piecer, admitted 15th March, 1837. The right *tunica vaginalis* was greatly distended with fluid, and was extremely tense and elastic. The swelling was diaphanous, and the testicle was seen, by transmitted light, to be somewhat larger than natural at the upper and posterior part. The hydrocele commenced originally about three years ago, and has been twice tapped within the last six months. The general health was good. In this case, acupuncture with a sewing-needle was performed four or five times, at the inter-

val of two or three days, with the effect of diminishing the size of the swelling, but there always remained in the sac a considerable portion of the fluid, and much more than in the case previously related. He left the hospital after having been there about a fortnight; but I understand that he returned in about six weeks, and that he was tapped and treated by the usual method, by injection, for the radical cure of hydrocele.

"This mode of attempting to cure hydrocele radically has excited some attention of late amongst surgeons, from its novelty and simplicity; and were it in general ultimately successful, it would be the most simple and at the same time the most extraordinary operation that is recorded in surgery. Even upon the supposition that it is only a palliative or substitute for the common plan of tapping with a trocar, the discoverer is entitled to much credit; for a puncture with a sewing-needle is attended with scarcely any pain, and the most timid of men would submit to it without apprehension. The results arising from the treatment of two cases are not enough for drawing any certain conclusion; but certainly they tend to establish this point, that no particular change is effected upon the internal coat of the *tunica vaginalis*, and that the fluid reaccumulates as after ordinary tapping with a trocar.

"In both the cases that have been detailed, the needle was introduced perpendicular to the surface of the tumour, and in almost every instance, the drop of clear fluid, which is reckoned characteristic of the acupuncture being properly performed, presented itself. In the first case, after having simply inserted the needle for a considerable number of times without any apparent effect in preventing a re-accumulation, it was in the future operations moved about, along the internal surface of the *tunica vaginalis*, with the intention of exciting some inflammatory action. This, however, had no better effect than the simple introduction of the needle.

"It may be stated that the cases above-mentioned were not well adapted for the plan, for in both the testicles were enlarged. This certainly is an objection to the success of the acupuncture, as well as to every other plan for a radical cure of hydrocele; but a little enlargement of this organ is a very common occurrence in this disease, and in the first case detailed the enlargement had almost completely subsided before he left the house. It appears to me that this operation is not likely to supersede the radical cure by injection, but that as a palliative it ought generally to be preferred to the use of the trocar; at the same time, I am of opinion that a frequent and long-continued use of the needle may in some cases effect a radical cure; and this view is supported by the fact, that after acupuncture has been repeated several times, the re-accumulation of fluid goes on less rapidly than after the first or second operation.—*Ed. Med. and Surg. Journ.* Jan. 1838.

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35. *Dislocation of the Humerus, attended with a grating sensation on motion, leading to the supposition that the case was complicated with fracture.*—Wm. Lawrence the distinguished Surgeon of St. Bartholomew's Hospital, in a recent clinical lecture, related the following case of this character.

"James Yarmsley, 40 years of age, was admitted into the hospital, on the 23d of March, 1838, for an accident to the shoulder, which had occurred on the 21st. A cart, in which he was riding was overturned; he was thrown violently to the ground, when the cart fell on him, and he remained under it for some time. The gentleman who first examined the limb, considered that there was a fracture, and therefore recommended that he should be sent from the country, where the accident happened, to the hospital. They who first examined the patient on his arrival entertained the opinion that there was fracture; and the case was accordingly mentioned to me as a dislocation of the shoulder with fracture. The dislocation was obvious enough, and it was soon ascertained that the humerus was not broken. A sensation like crepitus was perceived as distinctly as in a fracture, when the shoulder-joint was firmly grasped with one hand, and the arm moved with the other; also, when the upper end of the bone was raised by the hand passed under it in the axilla, the elbow being held by the other hand. The sen-

sation appeared to me more like the hitch or catch which might be produced by moving the articular head of the bone over an irregular hard surface, than the sharp grating of broken bones: the symptom, however, was so strongly marked as to lead to the opinion that the neck of the scapula was fractured. Never having seen a specimen of fractured neck of the scapula in any museum, and reflecting on the mode in which this portion of the bone is protected against external violence, I conclude that such an injury, if it ever happen at all, is extremely rare, and that it is the least likely to take place when the effect of the force has been spent in causing dislocation. As the existence of dislocation was unequivocal, while I doubted altogether respecting that of fracture, I deemed it advisable to make a cautious trial of extension, which I did on the 24th. When a moderate force had been applied, by two or three assistants pulling at the ends of a folded linen fastened above the elbow not more than five minutes, the bone went in, the mobility of the joint was restored, and there was no longer any crepitus or other indication of fracture.

"The head of the humerus, when dislocated, may lie upon the subscapularis, or between that muscle and the bone; or it may be placed in contact with the inferior costa of the scapula, near the glenoid cavity. In the two latter cases, the movement of the head over the bony surfaces, on which it rests, may impart a sensation closely resembling the crepitus of fracture. I remember a case of unreduced dislocation in this hospital, where the crepitus was so distinct that the injury was supposed to be fracture. The patient died: I do not recollect the details of the history, nor the cause of death. The head of the humerus was in contact with one of the ribs, the surface of which was bare."—*London Med. Gaz.* Nov. 17, 1838.

[A case of a similar character came under the care of the Editor of this Journal in the Wills Hospital in November last. The subject of it was a woman, from New Jersey, 60 years of age, short stature, robust, flabby muscular system. Eight weeks previously she had fallen down stairs and dislocated her right shoulder. Attempts at reduction had been made by a surgeon residing in her neighbourhood, and subsequently by two surgeons of Bordentown, N. J. without success. On examining her for admission into the hospital, we found the head of the humerus thrown forward and upwards, under the accronion scapulæ, and were immediately struck with a grating sensation when the bone was moved in certain directions, which at first led us to suspect that the dislocation was complicated with fracture. There was not however the sharp crepitus of fracture, but rather a sensation as if two bones covered with cartilage were rubbed together. The most careful examination failed to reveal any evidence of fracture, and we felt satisfied that the grating resulted from the rubbing the head of the humerus against the scapula or first rib.

The patient was suffering no pain from the position of the humerus, had considerable motion of the limb, and was able to use her hand in sewing, knitting, &c. She was desirous, however, of regaining the perfect use of her arm; and it was determined, in consultation with my colleagues, Dr. G. Fox, S. Littell, I. Parrish, and also of Dr. J. Parrish and J. R. Barton, to make such efforts for the reduction of the dislocation, as prudence justified. These attempts failed; and we recommended the patient to be satisfied with her present condition, and not submit to extreme violence which might produce rupture of the artery and a fatal result. She went home determined to abide by this recommendation.]

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36. *Malignant Ulcer under the left ear cured by chloride of zinc.* By Wm. Davidson, M. D.—Neil Boyd, aged 40, servant, was admitted into the Glasgow Royal Infirmary, September 13, 1836. Under the left ear was situated an ulcer about half an inch in diameter, and extending from angle of jaw to lobule of ear, the under surface of which was involved in the ulcerative process. The ulcer was slightly excavated, presenting a dry grayish-colored warty bottom, from which there was occasionally a slight bloody exudation. Its margins were thickened, callous, and everted, the integuments being painful on pressure, and of a dusky-red colour. The ulcer first appeared

above six years ago in the form of a small red *papula*, which was attended with a lancinating pain. He complained of a dull uneasy sensation in seat of ulcer, but the pain was never very acute. No enlargement of submaxillary glands. On the 13th of September, chloride of zinc, uncombined with flour or gypsum, was applied to the ulcer, and it has produced to-day (14th) a very thick slough, which is firmly adherent.

"*September 16th.* The slough is detached; the surface of ulcer has a more healthy aspect, and is covered with purulent secretion. The chloride of zinc was repeated every three or four days, according as the slough was sooner or later detached, and was used six or seven times altogether. After the ulcer had assumed a healthy character, simple dressing, and the occasional light application of the nitrate of silver were employed, and he was discharged on the 6th of November, the ulcer being completely cicatrized. The chloride of zinc in this case was not combined with any other substance, as is recommended by some writers; but was simply applied to the ulcer, and allowed to deliquesce on its surface, using the precaution of preventing any of the fluid formed coming into contact with the neighbouring parts. Poultices were used during the whole time that this caustic was employed. The chloride of zinc seems also to answer well in removing warty excrescences, and I used it lately in a private case for removing a malignant looking excrescence, situate at the junction of the *ala* of the nose and the cheek, about the size of a gooseberry, and partially ulcerated. It had existed for seven years, was gradually increasing in size, and was the seat of occasional lancinating pain. The chloride of zinc was applied three times, at the interval of four days, and after the last slough was thrown off, there remained a pretty deep excavation, but which was speedily filled with healthy granulations, and soon cicatrized completely, leaving no suspicious trace of the former disease.

The chloride of zinc, however, seems only to be superior to many other caustics, in cases when the destruction of a considerable thickness of texture is required, or where the removal of an excrescence by a caustic is preferred by the patient to the knife; for the nitrate of silver, as shall be noticed under the article ulcers, seems to be superior in promoting a sound action, when the unhealthy stratum of the ulcer is superficial.—*Ed. Med. and Surg. Journ.* January, 1838.

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37. *Treatment and Causes of Erysipelas.*—In the Report of Surgical cases treated in the Glasgow Royal Infirmary during the years 1836-7, by Wm. Davidson, M. D., we find the following interesting observations on Erysipelas, which prevailed epidemically in the wards during the period mentioned.

In the general treatment of Erysipelas, Dr. Davidson states, that "the antiphlogistic plan was only employed in a few cases in the commencement of the disease; for it was found that symptoms of debility in general appeared pretty early, more especially if diarrhœa was a concomitant, which was not unfrequent. The tonic plan was, therefore, found the most successful, and it consisted of wine, sulphate of quinine, light nourishing diet suited to the state of the digestive organs, laxatives or laxative enemata, and occasionally opiates at bed-time. The external treatment consisted of leeches, punctures, incisions, mercurial ointment, nitrate of silver applied in the form of a weak solution to the whole erysipelatous surfaces, or applied in the solid state in the form of a circle, with the intention of insulating the disease.

"Leeches and punctures were not found so beneficial as incisions; and the latter were generally practised, and made in various parts of the region affected, to the extent of from one inch and a half to two inches and a half in length, through the skin and cellular texture. In the slighter cases, where the disease appeared to be superficial, mercurial ointment, and a solution of nitrate of silver, consisting of ten grains to an ounce of water, were applied; but the latter was found the most efficacious of the two; and generally, on the day following its application, the swelling and redness were much diminished.

"The solid nitrate of silver succeeded in the great majority of cases, in preventing the spreading of erysipelas; and the following points require to be attended

to, in order to insure success. 1*st*. It must be applied to a sound part of the integuments, viz. a part where there is no swelling or redness; but as near as possible, so as to avoid this. 2*d*. The inflamed surface must be completely encircled by the caustic line. This may be effected in the following way. Take a pretty large hair-brush and moisten thoroughly with water the part that has been selected to the breadth of about an inch; then rub a cylinder of lunar caustic very freely over this moistened portion of the skin. Distinct vesication over the whole surface to which the caustic has been applied should be produced; for if this does not follow, the disease may extend beyond the line. And this is perhaps the reason why a saturated solution (consisting of equal parts of the salt and water) is not so certain as the solid caustic; for erysipelas seems to extend its boundaries by creeping along the cutaneous surface, before it affects the cellular tissue; hence, if its progress over the integuments can be checked its extension in the textures below will at the same time be prevented. In general, after the caustic has been thus applied, the inflamed integuments in the immediate vicinity of it become partially shrunk and puckered; but the state of the previously affected parts appears to be uninfluenced by it, and they proceed to resolution or suppuration, according to the nature of the case. Many cases could be quoted from the journals of the house, besides those already noticed, where this practice was adopted, in proof of the general efficacy of this mode of insulating erysipelatous inflammation; but their introduction would render this report too long.*

"A question of much practical importance relates to the causes of erysipelas, in as much as the prevention of the disease, and the separation of those affected with it from other patients, depend partly upon the opinions formed respecting this subject. I shall not attempt to discuss the contagious or non-contagious nature of the disease; or whether it can be generated by overcrowding a ward, and by want of cleanliness and ventilation; but simply state that, on two or three occasions, almost the whole patients of a particular ward have been affected with the disease in rapid succession; the first case, being generally a solitary instance, either occurring in the house, or brought to it when laboring under the disease. It has been further found, that, for several years back, the disease has only prevailed, to an epidemic extent, in two particular wards, both situate at the top of the house, and consequently better ventilated than those situate below them. These two wards were cleaned out, ventilated, fumigated and heated with very considerable care; and notwithstanding, the disease, in a short time afterwards, reappeared. Overcrowding was not the cause, when on this occasion the disease first returned; though at some other periods the wards were very full, owing to the numerous important cases that presented themselves for admission. Whether it be possible that the disease may be spread in consequence of the promiscuous use of sponges, towels, &c. I am not prepared to give any positive opinion; but certainly, as long as there is any doubt respecting this point, precautionary measures for preventing this should undoubtedly be adopted.

"The conclusions, therefore, which may be drawn from these statements, are

"1*st*. That there should be a ward, in every large hospital, exclusively set apart for erysipelatous cases; and the reasons for adopting this plan are at least equally strong, as for the separation of fever from other cases.

"2*d*. That every erysipelatous case should on admission be sent to this particular ward.

"3*d*. That all cases occurring in the hospital, where removal would not be injurious, should be sent to this erysipelatous ward as soon as the disease is discovered."—*Ibid.*

* It should be remembered that the late Dr. Physick employed blisters with the same view, that the nitrate of silver has been used by Dr. Davidson. The *modus operandi* of the two remedies is the same.—*Editor.*

OPHTHALMOLOGY.

38. *Glaucoma.*—The appearances in this disease are usually considered as resulting from some change in the vitreous humor (or hyaloid membrane), the retina, or choroid. The investigations of Dr. Wm. Mackenzie of Glasgow, lead him to believe that these forms of glaucoma are very rare and that by far the most common seat of the disease is the lens. He is inclined to think that there is never any very distinct glaucomatous appearance (that is to say, cloudiness of a greenish hue), except what is caused by the amber or reddish-brown color of the central and posterior laminæ of the lens. In lenticular glaucoma, the lens has become, in a certain sense, dichromatic, being of a deep amber when allowed to transmit the light, but appearing green by reflected light; the green hue being probably the result of the absorption of the extreme prismatic rays of the light entering the eye, while the middle prismatic rays are but little affected.

All who begin to examine diseased eyes, find considerable difficulty in distinguishing lenticular glaucoma from lenticular cataract; but a little experience generally serves to make them acquainted, more accurately than any verbal description can, with the diagnostic appearances of these two diseases. No mere cataract is green; the cloudiness in glaucoma is considerably remote from the pupil; and though sometimes the cloudiness is limited and surrounded by a lucid ring, while in other cases it extends almost across the breadth of the lens, yet it is always evident that the superficial laminæ of the lens are transparent in simple lenticular glaucoma. The greenish cloudy surface is always uniform, smooth, and as if polished, never streaked, spotted, or apparently rough, as is generally the case in lenticular cataract. The shadow thrown by the iris on the greenish cloudy surface is much broader than the shadow thrown upon a lenticular cataract.

"The reddish-brown color," Dr. Mackenzie observes, "upon which lenticular glaucoma depends, affects only the internal and posterior laminæ, and fades away into an amber hue towards the surfaces, and especially the anterior surface and circumference of the lens. These, so long as the disease is one of simple lenticular glaucoma, have lost comparatively little of their natural transparency, but the reddish-brown part often presents, on making a section of the extracted lens, a peculiar dryness of substance, as well as a considerable degree of opacity.

"After lenticular glaucoma has existed for a time, the surfaces of the lens may become coagulated and opaque, so as to constitute a complication of glaucoma with cataract. This sometimes occurs very suddenly.

Dr. Mackenzie has tested these views by an examination of the eye catoptically according to the method of M. Sanson as detailed in a former No. of this Journal. (August 1838 p. 494.) The following are the results of his observations. The conditions under which they succeed best are, that the pupil be previously dilated by belladonna; the observer and patient placed in moderate daylight; the back of the patient turned towards the window; the patient seated so that the observer looks rather down into the eye than upwards; and a candle used which burns steadily, and does not blaze much.

"On reading over the following particulars to Dr. Staberoh, he was kind enough," says Dr. M., "to favour me with a few annotations, which I consider too valuable to be lost, and which I therefore subjoin under their respective heads:—

"1. In incipient lenticular glaucoma, or what we may call the first degree of that disease, both the deep erect image, and the inverted one, are distinct.

"[While its outline remains pretty sharp, the deep erect image is rather larger in size, and brighter than in the healthy eye. It is also somewhat of a yellowish hue. With the increase of glaucoma the inverted image becomes larger, and more of a yellowish color; its outline becomes sooner diffused than that of the deep erect image.

"In estimating the changes which are observed to occur in the appearances of the images reflected from the eye in its several diseased states, it is necessary to take into account two sources of these changes, viz. the state of the surfaces

which form the images, and that of the media through which we see them. Each of these causes must have an effect, more or less remarkable, in different cases of disease.—J. S.]

"2. In mean cases, or what we may call the second degree of glaucoma, the inverted image is pretty distinct, when formed near the circumferential part of the crystalline; that is to say, if the candle be moved by the observer towards the right side of the patient, while the right eye is the subject of examination, the inverted image will be seen behind the nasal end of the pupil. If the observer now brings the candle slowly in front of the eye, the inverted image, as it moves across the pupil, is seen to become less and less distinct, and in some cases is altogether extinguished; but as the candle approaches the patient's left side, it reappears behind the temporal edge of the pupil, being again formed by the circumferential portion of the posterior capsule. No such appearance as this is seen in lenticular cataract, a disease which always affects the superficial laminæ of the lens in such a way as to prevent the formation of the inverted image by any part of the posterior surface of the crystalline body. The extinction of the inverted image, when the candle is placed directly before the pupil, is evidently owing to loss of transparency in that portion of the lens, which, in lenticular glaucoma, suffers a peculiar degeneration, characterized by dryness of substance and a reddish-brown color.

"[In moderately developed glaucoma, both images of the candle are represented by yellowish spots, or blazes, of a pretty bright appearance, following the motions of the candle in their corresponding directions.—J. S.]

"3. In complete lenticular glaucoma, or glaucoma of the third degree, the inverted image is no longer visible even at the edge of the lens.

"4. The deep erect image is better seen in the second and third degrees of glaucoma than in the healthy eye. It is large and evident, but its outline is not sharp; so that it often appears like a diffused blaze. It is best seen when the eye is looked at downwards, and from one side. The fact that it is more distinct than in the healthy eye, is to be attributed to the reddish-brown part of the lens serving as a foil to the image.

"[In the far-advanced stage of glaucoma, both images disappear entirely: but I am not sure whether, in this case, there is no complication with cataract commencing.—J. S.]

"5. In lenticular cataract, no inverted image is visible; while, from the anterior capsule, there is merely a general reflection, but no distinct image.

"[In incipient lenticular cataract, the inverted image becomes indistinct, and its outline as if washed off. It is changed neither in color nor in size. It is extinguished long before the cataract is fully developed. In capsulo-lenticular cataract, the inverted image fades much sooner than in mere lenticular cataract, and even when the capsule, or the peripheric substance of the lens, seems to be alone opaque, the image disappears much sooner than we should expect, from the apparently moderate degree of opacity.—[J. S.]

"6 If the crystalline lens have been removed by operation, neither the inverted nor the deep erect image is visible.

"The catoptrical examination of the eye confirms, in the most satisfsctory manner, the doctrine that glaucoma is, in general, an affection of the crystalline lens. Concerning this disease, Rufus and Galen were right seventeen hundred years ago; distinguishing by the name of γλαυκώματα those internal opacities which they found to be incurable, while on the more favorable, they bestowed the name of ὑπόχυματα. The former they believed to depend on a change of color and consistence in the crystalline lens, an opinion from which the moderns have erroneously departed; while they attributed the latter to the accumulation of a new substance suffused between the iris and the crystalline—a notion which the moderns have successfully corrected.

"Lenticular glaucoma may be considered as a nebula of the lens, while cataract may be compared to an albugo, or leucoma. Glaucoma, however, is in the centre, cataract is on the surface of the crystalline; and while the former is rare-

ly, the latter is generally unattended with amaurosis."—*London Med. Gaz.* April 1838.

39. *Use of the essential Oil of Turpentine in Diseases of the Eye.*—Dr. A. Trinchinetti's experience induces him to place great confidence in the oil of turpentine in the slow and deep-seated inflammations of the eye, especially in those that do not yield to antiphlogistic measures. Cases are given proving its utility in chronic inflammation of the iris or ciliary bodies, and in incipient gangrene of the cornea, all of these following the operation for cataract; in the chronic stage of rheumatic iritis, or even in the outset, if it be mild; in traumatic iritis, ulcers of the cornea, onyx and incipient glaucoma. The oil should be administered in emulsion, the dose varying from half a drachm to four drachms daily.* The phenomena generally following its use are diminution or cessation of pain, a sense of general comfort, contraction of the vessels with gradual disappearance of the inflammatory fulness and lachrymation; the early dispersion of the matter effused into the anterior chamber or between the lamellæ of the cornea. Occasionally a sensation of weight and burning in the stomach, especially after full doses, was felt, and in some rare cases was sufficiently troublesome to prevent the further administration of the drug. Instead of producing a purgative effect, it caused constipation; the urine became abundant, of violet odour, was passed without pain and deposited a reddish sediment.—*Brit. and For. Med. Rev.* Oct. 1838, from *Giornale delle Scienze Med.-Chirurg.* Aug. 1836.

40. *Hereditary Hemeralopia.*—A very remarkable example of hemeralopia, hereditary for two centuries, is quoted by M. Florent Cunier, in a memoir read before the Medical Society of Gand. The first of this race of hemeralopics was a butcher named Jean Nougaret, of the commune of Vendemian, born about 1637. The six following generations have all been affected, though in different proportions. The disease affects the descendants of Nougaret from birth, and whether they remain at Vendemian or reside elsewhere.

The following table gives a synoptical view of this remarkable instance of hereditary disease.

1st	generation of	3	children	3	hemeralopia,
2d	"	16	"	10	"
3d	"	81	"	14	"
4th	"	208	"	23	"
5th	"	218	"	24	"
6th	commencing,	123	"	11	"

Thus, of 649 children, 85 have been hemeralopic. The proportion of those affected with the disease to the whole number of births is decreasing.—*Bull. Med. Belge.* Dec. 1837.

MIDWIFERY.

41. *On the Position of the Placenta in the womb during pregnancy, and on the manner the latter organ expands therein, as also of its subsequent contractions in the process of Parturition.*—There are some interesting and curious observations on this subject in the *Dublin Journal of Medical Sciences* for January last, by Hugh Carmichael, Esq., one of the Surgeons of Coombe Lying-in Hospital, Dublin. This accoucheur is of opinion that the placenta does not usually occupy the fundus of the womb during gestation, but that its true position is at the posterior part of this organ, probably the lower down the further the gestation is advanced. He of course admits that the placenta is originally attached to the fundus of the uterus or near to this part, but he conceives that its change

* The best formula for its exhibition is that proposed by Mr. Carmichael in 1829.

of position results from the manner in which the womb, as he imagines, expands. Thus, he says, that the fundus together with the parts posterior to it, undergo little or no alteration or change of surface during gestation, beyond what is sufficient to accommodate the increase of the placenta, and that the expansion principally goes on at the anterior part. The womb, however, he adds, increases chiefly in its altitude, the supply of which must, therefore, come principally from the anterior wall; now the effect of this must be, that while the posterior part, and so much of the fundus as is occupied by the placenta, remains stationary, except to the extent first mentioned, that the posterior portion expands and rises up, each superior part of it arriving at and occupying the fundus, and then turning over to form a portion of the posterior parietes, until the expansion has gone to the extent required. According to this theory, the placenta is turned over to the back of the womb by the first act of expansion, where it continues uninterrupted throughout the remainder of pregnancy, amid all the activity of the organ upon which it is implanted.

Mr. C. views the grades of uterine contraction as the converse of those of expansion. Thus when labour sets in, the contractions are conducted on the anterior part of the womb, the thin fundus likewise participating in them; by the parts endeavouring to regain their natural position, this latter descends; the cavity of the uterus is thus lessened, while that part upon which the placenta is attached, is preserved not only in a perfect state of quiet, but in a condition whereby the circulation so important to the success of the process is rather facilitated than impeded; at length, by this means, the child is expelled, and by that time the placenta arrives at the fundus; it is now no longer required, it is useless, is then submitted to the effect of these contractions, is detached, and thrown off from the system.

The occurrence of hemorrhage in labour, Mr. C. thinks may result from partial malposition of the placenta, for if this organ be situated above its normal position, it will come within the range of the early contractions of the womb, and be thus partially detached.

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42. *Unconscious Delivery.*—The following very curious case is related by Robert Hall, Esq. A young villager, about five months pregnant, staid out of doors during the whole night at a fair. She was speedily attacked with perfect paraplegia, and was utterly unconscious of the hand examining the womb per vaginam—yet she went her full period, and Mr. H. was informed by the parochial surgeon, Mr. Bond, that she gave birth, unassisted and easily, to a developed and living child, herself unconscious of its transit into the world. She died of her disorder some short time after.—*London Med. Gaz.* 10th Nov. 1838.

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MEDICAL JURISPRUDENCE AND TOXICOLOGY.

34. *Poisoning with Arsenous Acid successfully treated by the Hydrated Peroxide of Iron.*—A sufficient number of cases of poisoning by arsenious acid in the human subject, relieved by the administration of the dydrated peroxide of iron, have now been recorded to inspire confidence in the antidotal powers of this article against the poison just named. A case recently communicated to the Medical Society of Paris by Dr. Deville, is worthy of a brief notice, as the antidote proved effectual, though not given until five hours and a half after the poison had been taken. A young lady, disappointed in love, resolved on suicide. She took a packet of arsenic containing two drachms, put it into a silver tankard, poured over it about two ounces of water and drank the fluid contents of the goblet. This was about midnight. She then lay on her bed in expectation of the result; but finding death not approaching, after some minutes, she took some of the poison which remained in the bottom of the vessel and endea-

voured to push it down her throat, but its bitter taste she said made her to spit out a part of it. Altogether, it seemed on subsequent examination, that she must have taken and retained in her stomach about *fifty-six grains of arsenious acid*. At one in the morning, the first symptoms of poisoning manifested themselves by several attempts at vomiting, and by a feeling of burning heat in the throat, and in the region of the stomach. It should be mentioned that the patient had that day eaten a hearty dinner. Fortunately for her, the digestive process was not entirely finished when vomiting came on, as a portion of the food was ejected and with it probably a part of the poison. Soon after the pain became violent, followed by cramp in the calves of the legs.

Dr. Deville saw the patient at four o'clock in the morning. She had at this time vomited three or four times; she had intense pain in the frontal region, the face was extremely red; the eyes were greatly swollen and filled with tears; there was a sense of extreme burning and suffocation in the throat. The pulse was strong, full and bounding, and acute suffering in the stomach. Dr. D. supposed he had arrived too late to afford effectual assistance, and gave only some milk and other drinks, with a view to produce vomiting; and applied a poultice over the stomach. These means were productive of no relief; on the contrary, the symptoms increased in intensity.

Dr. Delens was at this time called in, and suggested a trial of the hydrated tritoxide of iron, which was procured at half past five in the morning, five and a half hours after the injestion of the poison. The antidote was given in doses of about one ounce every quarter of an hour until eight o'clock, by which time nearly half a pound had been taken; it was then discontinued, as it had produced vomiting several times and purged twice, and as the symptoms appeared abating. She still, however, suffered from violent cramps, particularly in the left leg.

The pulse was still full and bounding; the pains in the epigastrium at times insupportable, and then almost disappearing. Twenty-five leeches were applied over stomach, followed by cataplasms and emollient injections.

During this and several succeeding days, the fever continued, accompanied with the most violent headach, which prevented the patient from enjoying a moment's repose. The pain in the epigastrium, however, gradually diminished; by the aid of warm baths and a soothing treatment, the patient improved, and after eleven days she entirely recovered.

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44. *Effects of Respiring Carbonic Acid.*—By C. T. Coathupe. On the night of the 24th October, 1838, at twelve o'clock I retired to my library, a room 16 feet 6 inches long, 13 feet 10 inches wide, and 9 feet 4 inches high; its capacity was 2129.82 cubic feet. The chimney was closely built up with bricks and mortar. The window was very large, but was perfectly tight as to the admission of air. In this window were two casements, each 3 feet 1 inch high, and 1 foot 2 inches wide; each of them fitted well. The door was 6 feet 5 inches high, and 2 feet 10 inches wide; it fitted well against the stopping strips, but it left a vacancy of about a twelfth of an inch from the floor; and having a key-hole of the ordinary size, it may be said to have afforded a space for the ingress or egress of air, equal to an aperture 3 inches long and 1 inch wide. The temperature of the room was 54 deg. Fah.

The stove employed on this occasion was on Harper's and Joyce's principle, and was about 7 inches in diameter and 16 inches deep. The inverted cone, through which the air entered at the bottom of the stove, was perforated with 12 holes each about ¼ inch in diameter. The ventilator on the top was about 4 inches in diameter, and of the "wheel" construction; it was left perfectly open.

The charcoal was of the common kind, and not recently prepared; the stove could contain 4lbs. avoirdupois of this charcoal, which always required about two hours combustion before the aqueous vapour was entirely dissipated. On several occasions I had weighed the stove, with its contents, immediately after the complete dissipation of its aqueous vapour, and again after an interval of

from 3 to 4 hours. The loss usually averaged after the rate of 1 ounce per 18 minutes. When fully charged with common charcoal, 4 lbs. of fuel would always maintain combustion during from 20 to 21 hours, the ventilation being quite open all the time. This stove was charged with fuel, and lighted at 11 P. M. on the night of the 24th inst.; it was placed out of doors for one hour, and then taken into my room, and placed at a distance of 7 feet from the front of the sofa upon which I lay, and at right angles to my head. The sofa was 3 feet wide, and 2 feet high, consequently my head may be supposed to have been about 8 feet 6 inches distant from the stove, and perhaps about 2 feet 3 inches above the floor. Having fastened the door inside, I lay down in a thick, woollen dressing-gown at 12. At 4 A. M. I felt a slight degree of giddiness, which was scarcely perceptible, unless any attempt was made to turn upon the pillow. This increased until 5½ A.M., when my sensations resembled, in every respect, those felt by many persons when at sea, viz., intense vertigo, aggravated by the slightest motion; a desire to be sick, without the power; great prostration of strength, and apparent inanition, or want of capability to move any muscle of the body. To these were added a very full, throbbing, quick pulse, producing an impression upon the brain as though the arteries were rapidly distended to their very utmost capacity; the maximum impulse being accompanied by a peculiar thrill, resembling that produced by a light touch upon a piece of catgut, which had been strained until it was about to break. The cephalalgia was of unwonted and agonising violence, and particularly affected the occipital regions. I felt no symptoms of suffocation, although I could easily have fancied myself poisoned. It was evidently time to move, so I quickly slid over the edge of the sofa, and tried hastily to open the nearest window. My strength failed; I fell immediately upon the cushion of the sofa, and in less than a minute was literally streaming with perspiration. In a few minutes I made another effort to open the other window, and with great difficuly succeeded. I crawled upon my hands and knees, to the sofa again, and for a short time remained insensible. The fresh air, however, soon revived me, and I recovered sufficiently to get to the door, and opened it, and dragged the stove into the adjoining passage, and got again to the sofa, where I remained for 13 hours, enduring the utmost distress. About 7 A.M. my wife came into the room; she saw me very ill, but I could not give her any information as to the cause. She invited me to take some pulv. rhei., which was the only medicine she could command. I nodded assent, and it was with the greatest difficulty that I could sustain myself in any position to swallow it.

In the course of the day (about 2 P.M.) a medical friend, Mr. T. Davis, of Nailsea, accidentally called upon me. He saw my predicament, and prepared a few effervescing draughts, which soon set the rhubarb in action. At 7 P.M. I dressed myself, and while everything was fresh in my memory I tried to write; but the headach returning with the effort, I was obliged to discontinue. At 12 last night I retired to the same sofa, all things remaining as during the preceding night, with the exception of the stove, slept well, and this morning am almost recovered.

If one ounce of charcoal was consumed in 18 minutes, 18.33 ounces would be consumed in five hours and a half. If 12.94 grains of carbon be equivalent to 100 cubic inches of carbonic acid gas (Dr. Thomson), 18.33 ounces, or 8019.375 grs. of carbon will be equivalent to 61973 cubic inches, or 35.85 cubic feet, of carbonic acid gas. If the respiration of an adult human being consume the oxygen of 151.1 cubic feet of atmospheric air (vide Essay, p. 13) in 24 hours, it will produce 30.22 cubic feet of carbonic acid in that time, or 6.92 cubic feet in five hours and a half. Hence the total quantity of carbonic acid gas, eliminated by both stove and respiration, amounted to 35.85+6.92=42.77 cubic feet.

Now, the total capacity of the room was 2129.82 cubic feet, and, if we could suppose the chamber to have been perfectly air-tight, the total quantity of carbonic acid that could possibly have existed in its atmosphere at the expiration of five hours and a half, would have been but 2 per cent.

	Cub. ft.
The nitrogen would remain as before - - - - - -	1703.86
The oxygen would have been reduced to - - - - -	383.19
And the carbonic acid, instead of being about 1 cub. foot, would be increased by - - - - - - - - - - -	42.77
	2129.82

I regretted exceedingly, that I could not avail myself of a mercurial trough which was standing upon a table between myself and the stove, all in readiness, with receivers filled with mercury, &c., to have retained some of the air of the apartment before the window was opened; but it was absolutely impossible for me to have done so at the proper time.

And now comes the point;—Is carbonic acid a poisonous gas (Dr. Christison)? —or does it kill by suffocation (Dr. Thomson)? I conceive Dr. Thomson's (?) opinion to be correct. In my own case, all the symptoms of poisoning were apparent; and none of those of suffocation, and I attribute them entirely to the noxious effluvia which escaped with the carbonic acid gas; for unless the carbonic acid did really gravitate, which is not at all probable, the quantity proportioned to the atmosphere was not sufficient, even at its maximum, *to have produced suffocation;* and I am certain that I have breathed a larger proportion of pure carbonic acid gas, *without being poisoned.*

In the instance of death related by Dr. Christison, of a boy who had been teazed by a party of smiths, who held a recently-extinguished candle under his nose, the effect never could have resulted from the carbonic acid gas, but must have been occasioned by some such noxious principle as so completely enervated yours, most truly.—*Lancet*, 10th Nov. 1838.

MEDICAL STATISTICS.

45. *Vital Statistics of Glasgow.*—In April, 1838, Dr. Robert Cowan, one of the physicians to the Royal Infirmary of Glasgow, read before the Glasgow Statistical Society a highly interesting paper on the statistics of fever and small-pox, in the great manufacturing metropolis of Scotland—the amount of sickness and mortality in which, from influenza, cholera and fever, has for several years past, exceeded the proportion in any other town of the same population in Britain.

The inhabitants of Glasgow are yearly exposed to deleterious influences which demand the fullest investigation and the most prompt correction. As the increase of fever, especially during the last seven years, has taken place not in years of famine or distress, but during a period of unexampled prosperity—a period when the wages of labour have been ample—the price of provisions comparatively low, and every individual able and willing to work, secure of steady and remunerating employment, it cannot be doubted that the main evil to be overcome is the too crowded state of the population. When to this radical evil we add the causes enumerated by Dr. Cowan, and which we regard as active predisponents, there can be little room for surprise at the distressing prevalence of fevers in Glasgow. These are the total want of cleanliness among the lower orders of the community; the absence of ventilation in the more densely peopled districts; the accumulation, for weeks and months together, of filth of every description in the public and private dunghills; the over-crowded state of the lodging-houses resorted to by the lowest classes, &c. The deleterious effects of the causes first enumerated by Dr. C. cannot be doubted, but the last circumstance he mentions, we regard as the primary evil.

We select from the fourth number (January, 1838,) of the *London Statistical Journal*, some of the most interesting facts developed by the researches of Dr. Cowan.

With regard to the climate of Glasgow, its main heat is estimated at 47½° Fahrenheit. The average yearly quantity of rain, from an estimate, including 30 years, is 22 328 inches. The least quantity in any one year was 14.468, in 1803—the greatest 28.554, in 1828.

That the numbers admitted into the hospital, and the amount of fever cases, may be compared with the population at different dates, the following table is given:—

Year.	1791.	1801.	1811.	1819.	1821.	1831.
Population.	66,578	83,769	110,460	147,197	147,043	202,426

At the census of 1831, the amount of the rural population was 3908, that of the town 198,518.

The increase of population in Glasgow is to be chiefly ascribed to immigration, and the demand for females—domestics and labourers in the numerous cotton and power-loom factories and bleach-fields in the neighbourhood of the city, being very great, the largest proportion of the immigrants are of this sex. Those who resort to towns for employment are generally between the ages of 15 and 25, a fact which has an important bearing upon the statistics of fever. The relative proportion of the middle and wealthy orders to the labouring class has been yearly diminishing, and hence one cause of the increasing mortality of Glasgow.

The following tabular view of the amount of population, and rate of mortality, for the 14 years from 1821 to 1835, inclusive, is taken from a letter addressed by Henry Paul, Esq., to the Lord Provost.

Years.	Population.	Burials.	Rate of Mortality.
1822	151,440	3690	1 : 41·00
1823	156,170	4647	1 : 33·75
1824	161,120	4670	1 : 33·94
1825	168,280	4898	1 : 33·94
1826	171,660	4538	1 : 37·82
1827	177,280	5136	1 : 34·51
1828	183,150	5942	1 : 30·82
1829	189,270	5462	1 : 34·71
1830	195,650	5785	1 : 37·73
1831	202,420	6547	1 : 30·91
1832	209,230	10,278	1 : 20·35
1833	216,450	6632	1 : 32 63
1834	223,940	6728	1 : 33·28
1835	231,800	7849*	1 : 29·53
Mean mortality from 1821 to 1835 inclusive,			1 : 33·24
1836	244,000	9143	1 : 26·687†

The Royal Infirmary, for the reception of medical and surgical patients, was opened in the month of December, 1794, and contained accommodation for about one hundred and fifty patients. An addition was made to it in 1816, containing 80 beds. One-half of the Fever Hospital was opened in 1829, and the other in 1832, and, with some additional accommodation afforded since, can now receive two hundred and twenty patients.

The permanent hospital accommodation was—

From 1795 till 1816 - - - - - - -	150 beds.
1816 till 1829 - - - - - - -	230
1829 till 1832 - - - - - - -	330
1832 - - - - - - - - -	450

At which it still remains.

But besides the permanent hospital accommodation, stated in the foregoing

* In the burials from 1822 till 1835, there were included 6257 still-born.

† Of the 9143 burials in 1836, there were 702 still-born.

table, it has, on various occasions, been absolutely necessary to provide temporary hospitals, and also to appropriate apartments within the Infirmary for the reception of patients, apartments never intended for any such purposes. These demands for additional room have been solely caused by the prevalence of typhus fever, with the exception of the hospitals required in 1832 for the reception of patients affected with cholera.

In 1818, a temporary Fever Hospital was erected at Spring Gardens by public subscription, fitted to contain 200 patients. It was opened on the 30th March, 1818, and closed on the 12th July, 1819.

This hospital was again opened in 1827; at the expense of the Infirmary, and kept open for five months.

In 1828, a temporary booth was erected in the Infirmary grounds, capable of containing 68 patients.

A Fever Hospital, with 135 beds, was opened at Mile-End on the 9th January, 1832, and closed the same year.

Notwithstanding the above amount of hospital accommodation, that portion of it allotted for the reception of fever patients has, on various occasions, been found insufficient, and numerous applicants for admission have been thrown back upon their own resources—left to spread the contagion of typhus around their miserable dwellings, thereby augmenting the sum of human misery already existing in its most appalling forms.

The first table exhibits the total number of patients treated in the Royal Infirmary from its opening in December, 1794, till the 1st January, 1837, distinguishing the number of fever patients each year.

Tables of the total number of patients treated in the Glasgow Royal Infirmary, from 1795 *till* 1836, *distinguishing the number of fever patients each year.*

Year.	Total.	Fever.	Year.	Total.	Fever.	Year.	Total.	Fever.
1795	226	18	1802	729	104	1809	886	76
1796	338	43	1803	806	85	1810	935	82
1797	545	83	1804	678	97	1811	826	45
1798	569	45	1805	719	99	1812	877	16
1799	631	128	1806	700	75	1813	1022	35
1800	733	104	1807	726	25	1814	1135	90
1801	702	63	1808	840	27	1815	1340	230
1st period.	3744	484	2d Period.	5198	512	3d Period.	7022	574

Year.	Total.	Fever.	Year.	Total.	Fever.	Year.	Total.	Fever.
1816	1511	399	1823	1759	269	1830	2010	729
1817	1886	714	1824	2091	523	1831	3103	1657
1818	2289	1371	1825	2438	897	1832	2974	1589
1819	1861	630	1826	2317	926	1833	3082	1288
1820	1570	289	1827	2725	1084	1834	3879	2003
1821	1454	234	1828	3133	1511	1835	3260	1359
1822	1596	229	1829	2321	865	1836	5130	3125
4th Period.	12167	3866	5th Period.	16784	6075	6th period.	23518	11750

For the last three or four years, patients with small-pox and scarlet-fever have been included in the returns of fever.

In the first septennial period, the fever patients treated in the Infirmary were 12.92 per cent. of the whole.

In the second,	-	-	9.84	"	"
In the third,	-	-	8 17	"	"
In the fourth,	-	-	31.77	"	"
In the fifth,	-	-	36.19	"	"
In the sixth,	-	-	49.96	"	"

If to this table, strictly applicable to the Royal Infirmary, the numbers treated in the temporary hospitals be added, the per centage in the fourth period will be raised, from 31.77 to 47.62; whilst that of the sixth period will rise rrom 49.96 to 54.83.

The number of fever patients treated in the Infirmary during the last seven years, amounts to 11,751, whilst the total amount during the first thirty-five years was only about the same, namely, 11.511.

The distressing rate of mortality existing in Glasgow is rendered the more conspicuous by comparison with that of other manufacturing towns. Thus, for example, Manchester, with a population at the last census of 227,808, and which, in its constitution and density must nearly resemble that of Glasgow, has been for years, and yet remains comparatively free from fevers. The average annual number treated in the Manchester Fever Hospital for seven years, ending in 1836, was - - - - - - 497

That of Glasgow during the same period. - - - 1842

The number treated in Manchester Hospital in 1836, was - 780

" " Glasgow " " - 3125

For some causes not well understood, a great change has taken place in the rates of mortality in the two cities compared.

From 1797 to 1806, both inclusive, the number of the fever patients treated in the Glasgow Infirmary was only 883, whilst those treated in the Manchester fever Hospital amounted to 4618.

In Leeds, another manufacturing city, with a population at the last census of 123,393, the number of patients affected with fever and treated in the Hospital, averages for the last seven years, only 274.

In Newcastle and Gateshead, with a population of 57,917, the number of patients treated in the institution for the cure and prevention of contagious fever, amounts in the last seven years to only 276, or 39 per annum.

In Liverpool, with a population of 189,242, there were 1700 cases of fevers treated in the Hospital during 1836, a large proportion of which were seamen of the port, a numerous class.

Dr. Cowan observes, that further comparisons of the rates of fever in other towns in England, contrasted with that subsisting in Glasgow, would, he fears, only place the insalubrity of the latter in a more prominent and alarming point of view.

In Edinburgh, with a population of 162,156, the number of fever patients admitted in the Royal Infirmary, for the last three years, has been 2270, giving the average of about 756 per annum.

Dr. Cowan gives a table exhibiting the number of cases of fever patients treated by the district surgeons for the years preceding and including 1836. The whole number of cases was 9340, of which 3138 were sent to the Infirmary and 6202 treated at home. This shows the arduous and dangerous duties imposed on the district surgeons, from fevers alone. Few of these gentlemen, he says, escape an attack. The salary allowed each is 21*l.* per annum, a sum quite inadequate for the duties performed—notwithstanding which the situations are sought for with an eagerness denoting great professional ardour.

The Glasgow Fever Hospital can accommodate, without being over-crowded, 220 patients. From the 31st of October, 1835, till the 1st of November, 1836, there were 2655 admissions, of whom 142 were treated by the clinical physicians, and 2513 by Dr. Cowan himself. The numbers admitted each month

were as follows:—1835. Nov. 124—Dec. 140. 1836. Jan. 141—Feb. 125—March 176—April 203—May 246—June 272—July 264—Aug. 306—Sept. 303—Oct. 355.

The average residence of each patient in the Hospital was 18 days. The males and females were nearly equal in number.

Although the Fever Hospital is strictly appropriated to the reception of patients labouring under fever, small-pox, scarlet fever, measles, and erysipelas, still patients afflicted with other ailments, are occasionally sent there, either from their diseases being mistaken for fever, or from the facilities of admission being greater than those of the Infirmary.

Dr. Lombard, of Geneva, estimates the Irish population of Glasgow at 60,000, and ascribes the prevalence and what he deems the peculiarities of the last named city, to the number of Irish residents. The same opinion is expressed by the author of the article "Vital Statistics," in McCulloch's Statistics of the British Empire, vol. ii. p. 572. But these statements are proved by Dr. Cowan to be incorrect. The proportions of the Scotch, English and Irish inhabitants is ascertained by the census of 1831 to be as follows:—

Scotch.	English.	Irish.	Foreigners.	Total.
163,600	2919	35,554	353	202,426

The respective portions of fever patients were 66.10 per cent. Scotch, 2.12 per cent. English, and 31,67 Irish.

From an examination of the tables showing the ages of the patients admitted, distinguishing males from females, it appears that the period of life at which fever is most liable to occur, is from the age of 20 to 25 years for males, and from the age of 15 to 20 for females. The admissions rapidly diminish after the age of 40. Of 2257 individuals affected with fever, 2075 were under the 40th year, and only 182 above it.

It appears not a little remarkable, that whilst the ratio of mortality among the males is as great as 1 in every 6 121-163, that of the females is only 1 in every 11 21-101; the mortality of the males is 14.87 per cent.; that of the females 8.92 per cent. At the age of 15, the rate of mortality is nearly equal for both sexes. At the age of 30, the proportion of male deaths is nearly double that of the females. The mortality of males under 20 years of age, is 6.04 per cent. of the cases; that of the females under 20 4.90 per cent. The total mortality under 30 years of age is 8.35 per cent.; above 30, 24.84 per cent.

The increasing rate of mortality in Glasgow has been ascribed to the prevalence of fever, but Dr. C. shows that small-pox has had its share in augmenting the mortality. Unlike fever, however, the last named disease exerts its influence during infancy, and to it, in a great measure, Dr. C. attributes the increased mortality under ten years of age.

The deaths from fever, in 1835, were	412	by small-pox	473
" " in 1836, "	841	"	557

Of the deaths from fever, only 186 were under the tenth year, whilst the deaths of small-pox under the tenth year amounted to 993. G. E.

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46. *Periodical Mortality of the Human Race.*—At the termination of the first twelve years, about one-third of those born are with the departed; the proportion being against males in the ratio of 855 to 732 females (yearly). After this term (twelve years) to the age of forty-four, the middle period of life, and by far the more hazardous to women, the comparative mortality shows a different result; being as forty-six females to forty-one males. At the termination of this period, when procreation ceases, female life is comparatively the most secure; the average mortality from the ages of forty-five to sixty-five being about as sixty-three males to sixty females. The comparative security of life subsequent to this is slightly in favour of females. The table shows a great excess of mortality among females; but it should be remarked that the excess of female population, after this period of life, is nearly twelve per cent. over the male, and the ratio of mortality is hence by so much greater, without indicating any compara-

tive insecurity of life. In collating this table from the official documents before us, we cannot but remark the extraordinary mortality it evinces at the termination of each decade of man's life from the age of thirty years. In every instance, from thirty years of age and upwards, the mortality in the year which terminates the decade very greatly exceeds that in the preceding and succeeding years; and, as a matter somewhat curious, we shall show these instances:—

Age.	Mortality.	Age.	Mortality.	Age.	Mortality.
29 - -	26,630	49 - -	23,680	69 - -	33,038
30 - -	31,027	*50 - -	33,527	*70 - -	53,963
31 - -	23,201	51 - -	20,911	71 - -	32,162
39 - -	22,778	59 - -	25,782	79 - -	32,162
*40 - -	33,503	*60 - -	43,273	*80 - -	45,617
41 - -	20,989	61 - -	26,084	81 - -	27,425

This strikes us as something extraordinary; it seems to say, that, at these periods, a man is under the influence of some physical change, when he either surrenders or renews his life lease.—*Browning's Domestic and Financial Condition of Great Britain.*

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47. *Greater number of still-born in illegitimate than in legitimate births.*—It is well known that unmarried females who become pregnant are much more likely to have still-born children than married women. Professor Jorg, in a recent work (*Die Zurechnungs fähegkeit der Schwangern und Gebärenden beleuchtet*) states that in Leipzic, in 1835, there were born 1131 legitimate and 249 illegitimate children, of which 45 of the former and 28 of the latter were still-born; being one illegitimate child still-born in 8 25-28 births; and one legitimate child still-born in 25 6-45 births. In 1826 there were born 1135 legitimate and 242 illegitimate, of which 52 of the former and 18 of the latter were still-born; the ratio being in legitimate births one still-born in 21 43-52 berths, and in illegitimate one still-born in 13 8-18 births.

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48. *Pauper Lunatics and Idiots in England and Wales.*—It is stated in the No. of *Statistical Journal* for October, 1837, that there were in England and Wales 13,667 pauper lunatics and idiots. Of this number 2834 were male lunatics and 3568 female lunatics; 3372 male idiots, and 3393 female idiots. The proportion which the number of pauper lunatics and idiots bears to the population generally, is greater in the agricultural than in the manufacturing and trading districts. Taking the whole population of England, there is one pauper lunatic or idiot for every 1038 persons, and in Wales, one for every 807 persons; and upon the population of England and Wales together there is one for every 1017 persons. The greatest number of lunatics and idiots, in proportion to the population, is to be found in Rutland, where there is one for every 497 persons, and the smallest number in Lancashire, where there is only one for every 1960 persons. The number of criminal lunatics in England, on the 12th July, 1837, was 178, of whom 138 were confined in asylums, and 40 in gaols.

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ANIMAL CHEMISTRY.

49. *Urea in the Blood in Cholera.*—In a recent Number of *Poggendorf's Annals*, it is stated that Marchand detected slight indication of the presence of *Urea* in the blood of a patient who was affected with cholera, and who had not passed urine for three days. Still more recently Dr. Harry Rainy, of Glasgow, has distinctly detected urea in the blood of a patient who had died with all the symptoms of Asiatic cholera. The patient, a female, was ill eleven days, during which only 36 ounces of urine was secreted, including a small quantity found in the bladder after death. The blood analyzed was taken from the larger vessels and heart.

There was detected rather more than one grain of urea in each ounce measure of blood.—*London Medical Gazette*, 1839.

50. *Analysis of the Liquor Amnii.*—Dr. G. O. Rees has made a chemical examination of the liquor amnii in four cases, obtained at the 7 1-2 month of utero-gestation. The results show that this fluid varies greatly in proportional constitution in different individuals, at the same period of utero-gestation, so that, like all the secretions of the body, it is affected by the temperament and diathesis of the mother. The specific gravity of the secretions, however, varied but little in the specimens examined by Dr. Rees (1007. to 1008.6), a precaution, he thinks, on the part of nature to preserve a medium of fixed power to oppose the motions of the fœtus in utero.

The experiments of Dr. Vogt, of Berne, (see this Journal for Nov. 1837, p. 219,) would lead us to suppose that there is a great variation in the density of the fluid at different periods. Dr. Rees does not regard those experiments as conclusive, as there is a want of proper relation between the solid contents and specific gravity of the fluids, as given by the Swiss chemist.—*Guy's Hospital Reports*, Oct. 1838.

MISCELLANEOUS.

51. *Revaccination.*—Upon this important subject, which is at present very much agitated in France, there is an interesting memoir by M. Dezeimeris, in *L'Experience Journ. de Méd. et Chirurg.* for December last.

According to this writer, the idea that the preservative effects of vaccination have but a limited duration, and that it may be necessary to renew its impressions, at longer or shorter periods, is founded upon two fundamental facts:—

1. Variola, although a preservative from variola, does not afford an infallible and ever-enduring protection from the same disease. Repetitions of variola are never observed following each other closely, but with long intervals from the first attacks. The preservative power is, therefore, at its hightest degree, immediately after the body has been exposed to the principle of the disease, and gradually becomes weaker in proportion to the length of time elapsing after this epoch.

2. The practice of inoculation for small pox has shown, that the variolous virus produces a milder form of disease than that resulting when taken the natural way; that the virus becomes milder and milder in the course of successive transplantations; from all which it seems reasonable to conclude that in losing strength during successive reproductions, it also loses its protective power.

Upon these grounds it is allowable to presume that vaccination, the resemblance of which to variola is so striking, must be subjected to similar laws. It is naturally to be doubted whether the preservative power of vaccination ought to be regarded as absolutely unalterable, and it may be presumed that the virus obtained from the cow would become more and more feeble after successive transplantations through the human system. Prudence would, therefore, seem to dictate the necessity of returning from time to time to the original source of the vaccine virus.

Now these conclusions were entertained by the first originators and promoters of vaccination, and promulgated by Jenner himself. But it has been chiefly since the year 1820, from which period so many epidemics have prevailed, calculated to throw doubts upon the question of the infallibility and unalterability of the preservative powers of vaccination and variola, that the greatest number of authors have occupied themselves upon the question of revaccination.

M. Dezeimeris commences his examination of the evidences upon this subject, by reference to the documents furnished by the northern countries of Europe. A few estimates, taken from the Copenhagen bills of mortality, will prove more than all reasoning upon the subject, the degree of preservative power exerted by

vaccination during the first years of its adoption. From the year 1749 to 1808, there perished by small pox in the Danish Capital the following numbers:—

1749 to 1758	2991	persons.
1759 to 1768	2068	"
1769 to 1778	2224	"
1779 to 1788	2028	"
1789 to 1798	2920	"
1799 to 1808	724	"

It must be observed, that in the first two years of the last period, vaccination had not yet been established.

The following facts, furnished by subsequent years, are worthy of attention, as possessing striking interest. From 1800 to 1804, not a single case of small pox occurred among the vaccinated. In 1804, two cases of varioloid occurred. In 1805, five persons died in Copenhagen of varioloid. In 1806, three more of the vaccinated fell victims to varioloid. In 1808, there were 46 deaths by small pox, including 13 cases of varioloid. In 1819, and more especially in 1823, the cases of varioloid and genuine variola occurred in greater number, and were not limited to Copenhagen. It is of importance to mark the ages of the victims of small pox after vaccination, since it furnishes the means of ascertaining the period that has elapsed from vaccination. The following information upon this point is derived from the documents: 24 of the subjects were under the seventh year; 42 between 7 and 11; 191 between 12 and 23; so that in nine-tenths more than ten years had elapsed after vaccination. Three of the victims had genuine confluent small pox; they had been vaccinated on its first introduction. Thus it appears, that the most violent cases, such as terminated fatally, and, consequently, those in whom there no longer subsisted either the privilege of being preserved from the disease, nor even the power of mitigating its violence, were precisely the cases occurring in those that had been the longest vaccinated.

In 1825, a new epidemic commenced in the month of September, which did not terminate before the middle of the year 1827. The records furnish the following particulars: In 623 cases of variola or of varioloid, 428 occurred among those who had been vaccinated; 26 among these had variola, in a form which differed in no respect from that occurring among the vaccinated, and two of these died. This mortality, so very small when compared with that occurring among the unvaccinated, with whom 1 in 5 died, proves that vaccination, even where it does not preserve entirely from the contagion, lessens its malignity. The documents also prove that the proportion of the vaccinated attacked by small-pox, becomes greater and greater from year to year, and that the susceptibility to variola is in direct proportion to the time that has elapsed after vaccination. A new epidemic occurred in 1828, the characteristics of which differed in no respect from those of former years. Of the subjects which the public authorities had revaccinated in 1825, not one was known to be attacked.

In 1832, the epidemic was still more violent, and revaccination preserved the power it had before shown in protecting from attacks of the contagion.

The following results connected with this period, are furnished by Dr. Wendt; it includes observations made upon 3964 cases of revaccination:

Age.	Successful Revaccinations.	Unsuccessful.
1 to 10	33	1
10 to 20	216	82
20 to 25	2175	998
25 to 30	191	76
30 to 40	123	43
40 to 50	18	8
	2756	1208

The facts furnished by Denmark, therefore prove; 1. That for some years the variola affords a perfect protection against variola; after which its preservative

virtue no longer prevents a second attack, although it exerts a modifying agency in a greater or less degree. Finally, after the lapse of a certain period, it neither prevents variola from occurring, nor from pursuing its natural course, nor even from proving fatal.

2. That vaccination affords an absolute protection from variola during some years, after which it does not prevent a second attack, but still exerts a modifying agency over the disease, to a greater or less degree. Finally, after a certain period, it neither prevents the variola from appearing, nor from running its ordinary course, nor from causing death.

3. That in regard to absolute protection, revaccination enjoys the same power as variola and vaccination; that it succeeds the more certainly in proportion as the individual upon whom it is practised is removed from the period when he had the small-pox or the cow-pox, and consequently as the necessity is greatest. It is proper to observe that it would appear from the observations furnished by epidemics, that the preservative power exerted by revaccination is temporary, just as is the case with that afforded by variola and first vaccination. From all this, one is forced to declare that both experience and reason dictate the necessity of revaccination, and that it should be propagated with as much zeal as first vaccination.

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52. *New Works.*—The following medical works have recently been published in France.

Mémoire sur la cure radicale des pieds-bots. Par H. Scoutteten. 3 fr.

Traité theorique et pratique des maladies des femmes. Par J. Imbert, tom. 1re. 6 fr. The second and concluding volume is promised in six months.

Anatomie comparée du système nerveux. Par F. Leuret. 1re Livraison. To be completed in 2 vols. 8vo., and 1 vol. folio, of 33 plates. With uncoloured plates 48 fr. With coloured plates 96 fr.

Des pertes seminales involuntaires. Par M. le Prof. Lallemand. 2d partie.

Traité theorique et pratique des alterations organique simple et cancereuses de la matrice. Par F. Duparcque, D. M. 2d edition entirely remodelled and enlarged. 7 fr.

Traité de pathologie externe et de Médecine opératoire. par A. Vidal, (de Cassis.) tomes 1 et 2, 8vo. To be completed in five vols.

Maladies des enfans—affections de poitrine. 1re partie Pneumonie. Par MM. Rilliet et Barthez, internes des hôpitaux.

Recherches cliniques sur la meningite des enfans. Par M. A. Becquerel, internes des hôpitaux.

AMERICAN INTELLIGENCE.

On the Catoptric examination of the Eye. By The Editor.—In our number for August, 1838, we gave an account of a new means of Diagnosis between Amaurosis and Cataract, discovered by M. Sanson. This surgeon observed that, when a lighted candle was held before an eye, the pupil of which was dilated, and in which there was no obscurity of the transparent tissues, three distinct images of the flame were visible; two upright and one inverted. Experiments made to determine the causes of these reflected images, and the changes which occur in their number, position, &c. have shown, that if a light be placed before the convex face of a single watch glass, or of several arranged one behind the other, one or more upright images of the flame will be seen according to the number of glasses used.* Now in the eye there are two superimposed convex surfaces, viz: 1. the cornea, 2. the anterior capsule of the crystalline lens. Thus the formation of two upright images is explained.

Again, if a light be placed before the concave surface of a watch glass an inverted image is seen. Such a surface exists in the eye, in the posterior capsule of the lens; and thus the third image is accounted for.

We have been led by the statement of M. Sanson to examine the eye catoptrically in a number of cases within the last ten months, and the results of our investigations are entirely confirmatory of the representations of that distinguished surgeon. But it is not merely as a means of diagnosis between cataract and amaurosis, that this method of examining the eye is useful. The colour, size, distinctness, &c., of the reflected images enables us to distinguish many conditions of the transparent tissues of the eyes, which could not, by any other means, be diagnosticated. Dr. Mackenzie of Glasgow has recently employed it to determine the seat of the different varieties of glaucoma, and it is capable of further application. In fact, we are persuaded that the catoptric examination of the eye will prove as useful a means of diagnosis in various alterations of that organ, as auscultation and percussion are for those of the chest.

It should be borne in mind that very careful examination is usually required before those who are unaccustomed to observe them are able to detect the reflected images—once noticed, however, they are afterwards readily seen.

Dr. John Neill, the intelligent resident surgeon at Wills Hospital, has constructed some models which serve to illustrate these catoptric phenomena, and to assist the student in detecting the reflected images. These models are formed of three watch glasses. Two of them are of the same size and smaller than the third. The former are attached together with their concave surfaces opposed, so as to represent the capsule of the lens,

* At least so it is stated. But in truth each image is double—one being reflected from each surface of the glsss; and these images are the more distinct the thicker the glass is.

and are inserted in a hole made in a circular piece of pasteboard. This diaphragm thus constructed, is placed in a pasteboard cylinder or circular box near one end, and this end is covered with the larger glass, to represent the cornea. The other end of the box is closed, and the parts described are kept together by strips of paper and paste. We have thus a good representation of a natural eye. To represent the opacity of the capsule, other models are made with paper pasted on one or the other of the reflecting surfaces. With a little ingenuity models may thus be made to exhibit sufficiently well most of the different conditions of loss of transparency of the tissues of the eye.

Our investigations are not sufficiently matured to authorise us to lay them at present before the public, but we hope in due time to communicate the results.

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Expulsion of one twin Fœtus, the other retained to the full period, By S. Jackson, M. D., late of Northumberland.

When I wrote my note on the expulsion of one twin fœtus, with the safe retention of the other to the full period of utero-gestation, published in Vol. XXII. p. 237, of this Journal, I was not aware that similar cases had been recorded. Hence there is an act of justice to be awarded to our learned friend, Dr. James Mease, who lately referred me to a paper which he published on the same subject, in the Eclectic Repertory for the year 1819, vol. IX. p. 531.

Dr. Mease there relates four cases; a general idea of which may here be given in a few words.

Case I. In this the abortion occurred about the fourth month of pregnancy, under Dr. Mease's own observation, and a delivery of a child at the full time, five months afterward, occurred to Dr. Wm. Gardner then of Darby, near this city.

Case II. Dr. Mease quotes from the *London Medico-Chirurg. Transact. vol. IX. p.* 195, as recorded by Mr. John Chapman of Windsor. A blighted fœtus with a *perfectly healthy* placenta was expelled with much pain and considerable flooding; the other fœtus was carried to the full time and the woman had a fortunate accouchement.

Case III. In the *Transact. of the Royal Society of London for* 1818, Dr. Granville refers to a case related in one of the volumes of the *College of Physicians, of London*, entitled "a case of superfœtation." A lady was delivered of a male child in November, 1807, and in three months afterward, she was delivered of another male child, "completely formed." The first died when nine days old, the other lived longer.

Case IV. "I have now under my eyes," says Dr. Granville, *loco cit.*, "a recent preparation, where the complete ovum is seen, such as it was when expelled at the seventh month of pregnancy, the lady being safely delivered of another child alive two months afterward. Although the first fœtus was expelled at the seventh month, it was evidently the growth of a shorter period, and had remained in the uterus dead for three months."

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Closure and Obliteration of the Os uteri, during pregnancy. By Samuel Webber, M. D. of Charlestown, N. H.—Early one morning I was called upon to attend Mrs. O——, aged 28, in labour with her first child. The pains were said to have been regular and of moderate strength all night. Upon examination I found a large rounded tumour pressing

well down into the vagina, but could at first discover no os uteri. After a prolonged and careful examination, I found a little back of the centre of the tumour a slight inequality; consisting of a very shallow depression or dimple, just admitting the tip of my finger with a little inequality in the edges surrounding it, a very slight protuberance being perceptible before and behind it. The cavity of the dimple was smooth and firm. It immediately occurred to me that from some inflammatory action union had taken place between the lips of the os tincæ, thus obliterating it, while the cervix had been completely dilated, either by the growth of the child or by the parturient action. As the pains were not excessive, I determined to wait, with the hope that their progressive action would either overcome the adhesion of the opposing surfaces, or so dilate and enfeeble the point of union, that but little assistance would be necessary; at 3 P. M. the pains began to be severe, but on again examining, I found but little change, though the whole accessible parietes of the uterus seemed thinner and softer than in the morning. After noticing the effect of a pain or two, as another was coming on, I pressed the end of my finger firmly into the shallow depression, so as to present the edge of the nail to its bottom, aiding its effect with a slight scratching and boring motion. In a few seconds the finger passed through to the membranes, and the os uteri rapidly dilated to the size of half a dollar. The labour terminated favourably about 7 P. M., and the mother's getting up was speedy and favourable.

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Case of Club-foot treated by division of Tendo Achillis.—By Thos. J. Garden, M. D. of Wylliesburg, Va.

I was consulted in August last, by the parents of a child with a horrid deformity of the left foot which had existed from birth. The big toe of the foot pointed inwards to the instep of the opposite foot, the heel pointed outwards, the sole of the foot looked directly backwards, and the child rested in walking on the malleolus externus and outer edge of the foot. About this time a series of successful operations by Dr. Detmold, of New York, appeared in your journal, a careful perusal of which satisfied me at once of the success of the operation and of its easy performance. I did not hesitate to advise an operation and to hazard an opinion favourable to its success. The child was then about nineteen months old, with a manifest and striking disparity in the size of the foot and leg, both being smaller than the opposite or perfect limb.

On the 26th of September the tendon was divided in the presence of Doctors Wilson and Bouldin, in the following manner: The child was placed on its face on a bed, the foot was flexed by an assistant while he pinched up the skin between the thumb and fore finger, immediately over the tendon, between one and two inches above its insertion, A narrow sharp pointed instrument was then passed through the skin with its edge towards the tendon and immediately in contact with it. As was designed it was withdrawn and the tendon divided with a scalpel, with a convex edge, leaving the cutaneous wound on one side about one quarter of an inch long, and about one sixth of an inch on the other side. The tendon separated with a distinct snap, like the breaking of the tenor string of a musical instrument.

When the thumb and finger were removed, and the skin allowed to resume its original position, the cutaneous wounds had separated an inch or

more and were immediately opposite the tendon on either side. The whole was the work of a few seconds only, and was done much to the satisfaction and gratification of Doctor Bouldin whose zeal had caused him a ride of twenty-five miles to witness it.

The cutaneous wounds were dressed with common court plaster, and the limb and foot put up in a roller with a splint in front, made of a bit of sole leather. No bleeding, no swelling, or inflammation or any other circumstance supervened to jeopard the success of the operation. In forty-eight hours the cutaneous wounds had healed, the extensible cicactrix had formed, and an instrument previously prepared, designed to fulfil the indications in the case was applied. The extension was gradual and perpetual. In six weeks the child, with the aid of a common boot, split open in front to facilitate the introduction of the foot, was able to run about the room on the flat sole of a straight foot. When freed from all restraint there was a tendency in the toe to turn a little inward, but it seemed to be as much an affair of habit as an abnormal state of the parts, as some degree of violence in handling the foot caused not the slightest indication of pain or uneasiness on the part of the child. A few days after my last visit (six weeks after the operation) the parents moved to the State of Tennessee.—Neither of them expressed a fear or a doubt about the final and perfect relief of the child, from the use of the boot alone, and many who had seen the foot previous to the operation, and had merely heard of the circumstance, doubted the possibility of the fact that the foot had been straightened and the sole brought down flat upon the floor. The child was in fine health and I have no doubt a speedy and full developement of the limb and foot will ensue.

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New Vaccine Virus.—We mentioned in our preceding No. (p. 516,) that Mr. Estlin of Bristol, had obtained vaccine virus directly from the cow—and had transmitted some lymph propagated from it, to this country. We have since been favoured by our friend Dr. J. Carson, with lymph from this source, said to be but fourteen removes from the cow, and have used it in several instances. The disease which resulted had the peculiar characters, described by Jenner, but more strongly marked than we have seen them from the matter at present in use. The inflammation did not make its appearance until somewhat later than usual, (the fifth day,) but the vesicle was regular in its progress, rather larger perhaps than common, but flat and indented in the centre. The scab was thick, dark-coloured and firm—more strongly characteristic of the disease than any scab we have seen for a number of years.

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Report of Thomas Lawson, M.D., Surgeon General of the United States Army.—The annual report of the Surgeon General, with a copy of which we have been favoured by the author, is an interesting document.

The number of cases of indisposition under treatment by the officers of the medical staff of the army, between the 30th of September, 1837, and the 30th of September, 1838, is stated to have been 26,053, of which 24, 618 were new cases. Of the whoie number reported sick, 24,212 have been restored to duty; 473 have been discharged the service; 29 have deserted; 311 have died; leaving on the 30th of September, 1831, 1,028 on the sick report, of which number 555 were convalescent.

The following table exhibits the prevalent diseases and their respective mortality.

Diseases.	No. of Cases.	No. of Deaths.	Diseases.	No. of Cases.	No. of Deaths.
Fevers, Intermittent -	3641	10	Epilepsy - -	61	2
Do. Remittent -	898	39	Gonorrhœa - -	348	0
Do. Typhus -	62	9	Syphilis - -	179	2
Do. Inflammation -	352	5	Wounds - -	1597	20
Bronchitis - -	113	3	Ulcers - -	611	3
Gastro Enteritis -	142	5	Luxations - -	41	0
Pneumonia - -	224	14	Fractures - -	71	3
Phthisis - -	38	21	Sprains and contusions	300	5
Catarrh - -	1992	0	Hernia - -	107	0
Pleurisy - -	242	2	Scorbutus - -	161	2
Cholera - -	146	2	Ascites - -	43	6
Cynanche - -	285	1	Apoplexy - -	3	3
Ophthalmia - -	310	0	Sequelæ of Intemperance	392	10
Hepatitis - -	1017	0	All other slight indispositions	4252	0
Diarrhœa - -	3610	62			
Dysentery - -	2889	75	Total.	24,608	311
Colic - - -	315	1			

"The proportion of sick to the number of persons in the military service," Dr. Lawson says, "cannot be ascertained as that number varied so frequently in the year, by the discharge of one body of troops, and the admission into the service of new levies of militia and volunteers; nor is the proportion of deaths to the number of sick so absolutely known as might be desired, for the reason that during active operations in the field many of the cases of indisposition were not recorded, while it is to be presumed that the deaths have been accurately stated. Enough, however, has been ascertained from the returns to show that not more than one in eighty-three of the cases reported (a fraction less than one and a quarter per cent.) terminated fatally; and thus to prove that the success of the military surgeons in the treatment of diseases bears a favourable comparison with the results of the practice of medicine in civil life."

"The law requiring an examination of all candidates for appointment in the medical staff before admission into the army, has been," it is stated, "rigidly carried out, and the same useful results as heretofore have been realized."

The following compliment is, we have no doubt, merited.

"Delicacy," observes the surgeon general, "perhaps forbids my saying much in commendation of the medical staff of the army; yet I may be permitted to express the belief, that (with two or three exceptions) no officers of the Government, whether of the civil or military department, are more zealous in the cause of their country, more prompt to obey orders, or more faithful in the discharge of their various duties. This opinion, I am happy to state, is in accordance with that very generally expressed by their associates in arms, of the line of the army. In truth, we have now an efficient corps of talented and experienced medical officers; and as the inducements to enter the army are much greater than heretofore, and the bar to admission into the service without merit is, through the action of the medical boards, complete, we may reasonably calculate on introducing into the army, in each succeeding year a portion of the very *elite* of the profession."

Malignant Pustule.—The *Southern Medical and Surgical Journal*, for February last, contains a very good paper on this disease by Dr. Wm. M. Carpenter, Professor of Chemistry and Natural History in the College of Louisiana, at Jackson. Dr. Carpenter states that malignant pustule is met with in nearly every part of the State of Louisiana, and he relates eight cases selected from many occurring in his immediate vicinity. Three of these cases were fatal.

Osteo-Sarcoma, and Excision of a large portion of the Lower Jaw. By Dr. J. Wort, of Jackson county, Indiana.—The subject of this case is Mr. Gerardus Ryker, of Jefferson county, Ia., aged 71 years. He is a man of good habits, and has always enjoyed good health, except an attack of white swelling in both legs, about the time of puberty.

"About two years ago, he received a severe contusion on the inferior maxillary bone, by the falling of his horse on the ice, which he thought at the time, had fractured the jaw. In a few days he recovered from this injury, and had forgotten the circumstance till about five months afterwards, when he was seized with most excruciating pain, attended with violent inflammation and swelling of the jaw. This subsided after a few days, by the use of the topical vapour bath, leaving a knot about the size of a small bullet, on the exterior surface of the right side, midway between the centre of the chin and the angle of the bone, apparently immovable. This continued to increase gradually, with occasional paroxysms of severe inflammation, and excruciating pain, till about six months since, when the pain became continual and lancinating, frequently producing severe spasms, with continued fever and constipated bowels. The tumour meanwhile rapidly increased; he had consulted many surgeons, but they all considered his case as hopeless.

"In January last, Dr. W. Davidson, of Madison, a graduate of Edinburgh, and a gentleman of fine medical acquirements, was attending to his case. I was written to by the Doctor for my opinion and advice, and shortly afterwards was called on to see the patient. I visited him on the 19th of January, they having put off calling on me for some time after receiving my answer to Dr. Davidson's letter, believing him to be in a dying condition.

"I found him very feeble, emaciated, and haggard in his appearance, but he became much animated, and joyful on my arrival; so great was his anxiety, and strong his hopes that I would operate on him and give him the only remaining chance of life, or terminate his protracted and insupportable sufferings.

"The tumour was an enlargement of the inferior maxilla, and a change or softening of its substance; the enlargement extended from the neck of the condyloid process to the centre of the chin, on the one hand, and up to the zygomatic process of the malar bone, on the other. From the right ear it reached to within one inch to the left of the trachea, projecting outwardly nearly two inches, and inwardly under the tongue to near the centre of that organ. Below, it involved the throat, pushing the hyoides three-fourths of an inch down to the left side, and compressing the external carotid artery to near its union with the internal carotid. It interrupted his speech, deglutition, and respiration very much, so that at times he was threatened with immediate suffocation.

"I waited till next morning to deliberate on the matter, and from his strong entreaty and perfect resignation to the result of an operation, I concluded to perform it the next day. I therefore called on Doctors Davidson and Hall, of Madison, Ia., to assist in the operation. Having premised a gentle aperient the night before, and given him a grain of morphine half an hour previous to the operation, he was laid on a table with his head near a window, with a mattrass under him. I stood on his right side, and one assistant on each side of the table, provided with nothing more than an ordinary pocket case of instruments, sponge, water, &c. I commenced the incision by cutting down to the solid tumour, extending from the tragus of the ear to within one inch of the centre of the chin, being as far as the tumour reached in that direction. Another incision decussated the first at right angles, each being seven inches long, being just the diameter of the tumour. I then carefully dissected the skin from over the tumour, in four angular flaps, cutting as close as possible to the skin, leaving all muscles &c., with the flaps. I then began to dissect the tumour from above, near the malar bone, keeping close to the tumour. Inwardly, there was nothing but the lining membrane of the cheek left, as the teeth were all gone. I next cut through the jawbone at the chin, and found it (as I had anticipated) soft and brittle. I next dissected out the process of the tumour which extended under the left side of the throat and

over the trachea. I had frequently to stop to restrain the hemorrhage. The small vessels were generally secured by torsion, and the wound cleansed of blood, and the discharge from minute vessels restrained by the application of a solution of kreosote, one part to fifty of water, (an application which I use in many surgical cases to advantage.) I now dissected the tumour from the carotid artery and jugular vein; the principal part of the parotid gland being involved in the tumour, it had to be removed. Dissecting round and leaving the principal branch of the internal maxillary artery and the temporal artery unhurt, I sought for the inferior maxillary artery and vein, to take them up before they were cut; the vein was anterior to the artery and very large, being about the size of a turkey quill. I put a ligature round it close to the tumour, and cut it, to give room to search for the maxillary artery, but as soon as I cut it, the blood regurgitated from the jugular vein as thick as a quill, and the patient being much exhausted, fainted. We then had to restrain the hemorrhage with a sponge, wetted in a solution of kreosote, till he was resuscitated by proper stimulants. This vein retracted and could not be secured till the tumour was removed, or part of it at least. I then at one stroke of the scalpel, took off so much of the tumour as was dissected loose, and cut through the maxillary artery, which had been drawn so far out of its proper place by the tumour, that it retracted as soon as bisected, and was so contiguous to the carotid, and such a profusion of blood, that securing these vessels was a most difficult part of the operation. These secured, I proceeded to dissect out the balance of the tumour with the jaw bone.

"I cut through the bone again at the neck of the condyloid process. The dissection completed, the wound was washed out with kreosote solution, and the flaps brought together and secured by the interrupted suture covered with a fold of patent lint, and surmounted by a plaster of simple cerate, then a compress of raw cotton to fill the vacancy and keep the integuments in juxta position with the parts underneath secured with appropriate bandages, and put him to bed and gave him a little wine and water occasionally. During the operation and afterwards, we gave him paregoric, hartshorn, and spirits of cinnamon. In three hours he recovered from exhaustion, and reaction took place with considerable fever and some hemorrhage. I allayed his fever with cold water, and arrested the hemorrhage by kreosote solution and a compress. In three days he could walk about, being free from pain, and able to eat and talk. I left him in charge of Doctors Davidson and Hall. Hemorrhage took place pretty freely on or about the eighth day, from rubbing the wound, and probably tearing away some ligature, but this was even of benefit, as it prevented or restrained all inflammation.

"I visited him five weeks afterwards, and found him able to walk about the yard; with good appetite and spirits, and the wound quite healed up. There is quite a chasm instead of an under jaw. After all the blood was washed out of the tumour it weighed three-quarters of a pound. Query, would a strict depleting course and antiphlogistic treatment with a seton drawn through the tumour at an earlier period, or taking up the inferior maxillary artery, have succeeded in arresting the pain and growth of the tumour?"—*West. Journ. of Med and Phys. Sciences*, July, 1838.

Wound of the Stomach.—The following "case of Recovery from a wound in the Stomach," related in a recent No. of a cotemporary (*Western Journ. Med. and Phys. Sciences*, April, 1838,) is almost enough to make one a believer in destiny. The recovery from the wound is sufficiently surprising, but recovery after such treatment as the patient was subjected to, is nothing short of miraculous. We give the case in the words of the narrator.

"An Indian received a stab in Natchez, on the 24th December, 1837. Six days elapsed before I saw him, during which period he walked to Rodney, which is thirty miles from Natchez. On the 30th of December I visited him, and found, upon examination, a wound of four inches long, a little below and to the left of the scrobiculus cordis. Protruding from the wound, there presented a tumour, which, upon first view, I thought was a portion of the bowels;

but upon further inspection, I discovered that it was most probably omentum. The external surface of this mass was very vascular, and in a state of suppuration, There was so strong a demonstration of sphacelus in the tumour, that I determined upon its removal by ligature. Accordingly the ligature was drawn pretty tight about the tumour, close to the abdomen. In a short time after the application of the ligature I returned, and found him very ill. Incessant vomiting, small, rapid pulse, cold and clammy skin, indicated the necessity of removing the ligature. The knife was then resorted to for the removal of the protruding mass; but upon cutting into it, I found that a portion of the stomach constituted a part of the tumour. I carefully separated the already dead parts of the tumour from that which was not in a state of gangrene. In doing so, I had to remove a portion of the stomach. The stomach was secured by a ligature, and confined within the lips of the external wound. The wound was then stitched, and dressed with adhesive plaster.

"On the 31st, I found him prostrated—with cold skin, feeble pulse, nausea, and constipated bowels. The external wound, and that portion of the stomach which was perceptible through the wound, were considerably inflamed, but of a healthy aspect. Ordered him a solution of Epsom salts, with spirits nit. dulc. and tinct. opii camph.

"*January* 1.—Some fever to-day, with nausea; his bowels were opened by the solution which he took yesterday. The external wound is suppurating. The edges of the wounded stomach very red, with slight suppuration.

"2*d*.—Free suppuration from the wound—appearances of granulation upon the thickened edges of the wounded stomach.

"On the 5th of January, the ligature which secured the stomach came away. There is a firm adhesion of the stomach to the peritoneum along the wound.

"10*th*.—The wound in the integuments nearly closed by granulations. He is recovering rapidly; appetite is good, and bowels regular. On the 15th of January, he rose from his bed, the wound being almost entirely cicatrized; his appetite, digestion, and other functions of nutritive, as well as animal life, in a normal state."

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Dr. S. & G. H. White's Lunatic Asylum at Hudson, New York.—We learn that during the year 1838, ninety-eight patients have enjoyed the benefits of this institution. Sixty have been admitted during the year, and thirty-eight were remaining at the close of 1837.

The whole number of recent cases,	- - -	30	
" chronic "	- - -	65	
" intemperate	- - -	3	
		98	
Of the recent cases, 15 recovered, 5 convalescent, 5 improving, 1 unimproved, 4 died,	- - - - - -		30
Of the chronic cases, 9 recovered, 6 convalescent, 21 much improved, 15 improving, 10 stationary, 4 died,	- - -		65
Intemperate, 2 reformed, 1 unreformed,	- - - -		3
			98

Remaining, January 1, 1839, 43 patients, to wit:—Chronic cases 33, recent do. 10.

Since the opening of this institution, a period of eight years and a half, four hundred and ten patients have been admitted.

Family worship has been continued during the past year, daily, with beneficial effects, which all the quiet patients have the privilege of enjoying.

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Massachusetts General Hospital.—We have before us the Annual Report of the Board of Trustees of this very useful Institution, for the year 1838.

The number of patients admitted from January 1, 1838 to January 1, 1839, was as follows:

Patients paying board,	Males,	153,	Females,	52,	Total,	205
Do. do. do. part of time,	"	24,	"	18,	"	42
Do. entirely free, - -	"	48,	"	85,	"	133
		225		155		380

Discharged during the same period—

Well,	Males,	107,	Females,	67,	Total,	174
Much relieved,	"	38	"	28	"	66
Relieved,	"	32	"	23	"	55
Not relieved,	"	20	"	28	"	48
Died,	"	23	"	12	"	35
Eloped,	"	3	"	0	"	3
Unfit,	"	3	"	0	"	3
		226		158		384

Proportion of deaths to whole number, 1 in 11.

The average population was 43.2.

The average foreign population 15.1.

The average stay of ward-paying patients, about 3 4-5 weeks; that of free patients, about 5 7-8 weeks.

Of the free patients, more than one-third were female domestics, and rather more than one-sixth labourers, of whom one-half were Irish.

The weekly cost of supporting each patient was $5 38.

The able physician and superintendent of the McLean Asylum reports that the whole number of patients remaining in the house at the commencement of the year 1838, was—

	Males.	Females.	Total.
	49	37	86
There have been received during the year,	79	59	138
Total enjoying the benefits of the Asylum,	128	96	224

During the year have been discharged—

	Total.	Males.	Females.	Old cases.	Recent cases, *i. e.* of under 1 year before admission.
Recovered,	74	46	28	16	58
Much improved,	2	2	0	2	0
Improved,	7	4	3	7	0
Not improved,	13	5	8	13	0
Died	12	6	6	6	6
Eloped,	0	0	0	0	0
Unfit,	2	1	1	0	0
After insufficient trial,	21	6	15	11	10
Total discharged,	131	70	61	55	74
Remaining, Jan. 1, 1839,		58	35	Total,	93

The following is the proportion of recoveries:—

Of all the recent cases discharged, - - - -	78 1-8 per cent.
Of all old cases, - - - - -	28 "
Of all cases, recent and old, - - - -	56 "
Of recent cases, exclusive of those who have died, or have been prematurely removed, - - - -	100 "
Of old cases, exclusive, &c. - - - -	40 "
Of all cases, exclusive, &c. - - - -	75 1-2 "

Of the class reported as having had an insufficient trial, 10 were much improved, 7 were improved, and 4 were not improved at the date of their discharge.

Dr. Bell confidently believes that almost all these would have been restored, had it been in the power of friends to have given them an adequate trial.

Philadelphia Medical Society. By request we insert the following:—

Extract from the minutes of the Philadelphia Medical Society.

Resolved, That all discoveries or improvements in medicine or surgery should be freely promulgated through the appropriate channels of medical information for the advancement of medical science and for the good of mankind, and that the appropriation of such discoveries or improvements by their authors, to their exclusive pecuniary emolument by the taking out of Patents or otherwise, is at variance with those principles of liberality and beneficence which should distinguish the medical character.

Ordered to be published; 27th March 1839.

HENRY KEIM Jr., *Rec. Secretary.*

—

University of Pennsylvania.—Four hundred and two medical students matriculated in this school the past session. The number of graduates was 158.

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Transylvania University.—The number of students in the Medical Department of Transylvania University during the session 1838—39 was 211, and at a commencement held on the 11th March, 1839, fifty-one received the degree of Doctor of Medicine.

This school has been recently endowed by the councils of the city of Lexington with the sum of forty-five thousand dollars, which will be appropriated to the erection of a new Hall and to the increase of the Library, apparatus and anatomical preparations, &c.

It affords us extreme pleasure to record this example of liberality, which stands out in strong contrast with the mean, trading spirit displayed by the council of another school. (See preceding No. of this Journal, p. 524.)

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University of Maryland.—The cause of the Regents of this University *vs.* the Trustees, has been decided by the Court of Appeals in favour of the former. The Medical Department must consequently be reorganized.

—

Dartmouth College.—From the catalogue of the officers and students of this college, issued in September last, it appears that the number of medical students at that time was 78.

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Medical College of Georgia.—The class the past session numbered 60, and at the commencement held 2d March, 1839, twelve were graduated doctors in medicine.

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Geneva College.—The number of graduates in Medicine in this college was in 1835, six; in 1836, eight; in 1836, five; in 1838, seventeen.

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Louisville Medical Institute.—The catalogue of the class during the session of 1838–39 shows the number of students to have been 120.

—

New Works.—Mr. GEORGE ADLARD, of New York, announces as preparing for publication "Medical and Physiological Commentaries by Martyn Paine, M. D.;" also a translation by Dr. Stewart, of the work of Dr. Berton, on the diseases of children, from the period of dentition to puberty.

QUARTERLY MEDICAL ADVERTISER.

In consequence of the extended circulation of the American Journal of the Medical Sciences, the Proprietors intend, in compliance with the wishes of many of their friends, to prefix to each No. a Sheet of Advertisements. All Booksellers, Medical Gentlemen, and others desirous of taking advantage of this mode of announcement, will please address their Advertisements to Lea & Blanchard, Philadelphia, by the 10th day of the month preceding that of the publication of the Journal, viz: on 10th July, 10th October, 10th January, and 10th April.

For one page, - - - - - - -	Six dollars.
Half a page, or less, - - - - - -	Three dollars.

UNIVERSITY OF PENNSYLVANIA.

MEDICAL DEPARTMENT.

The Lectures commence annually on the first Monday of November, and continue until the ensuing March.

Theory and Practice of Medicine,	By Nathaniel Chapman, M. D.
Institutes of Medicine,	By Samuel Jackson, M. D.
Special and General Anatomy,	By William E. Horner, M. D.
Materia Medica and Pharmacy,	By George B. Wood, M. D.
Chemistry,	By Robert Hare, M. D.
Surgery,	By William Gibson, M. D.
Obstetrics and Diseases of Women and Children,	By Hugh L. Hodge, M. D.

Clinical Medicine and Surgery taught by the prescribing Medical Officers at the Blockley Hospital, under the Guardians of the poor, and at the Pennsylvania Hospital.

W. E. HORNER, M. D.
Dean of the Medical Faculty.

MEDICAL COLLEGE

OF THE

STATE OF SOUTH CAROLINA.

The annual course of Lectures of the Medical College of the State of South Carolina, will commence on the second Monday of November.

J. Edwards Holbrook, M. D.,	*Professor of Anatomy.*
John Wagner, M. D.,	*Professor of Surgery.*
S. Henry Dickson, M. D.,	*Professor of Institutes and Practice of Medicine.*
James Moultrie M. D.,	*Professor of Physiology.*
Thomas G. Prioleau, M. D.,	*Professor of Obstetrics.*
C. M. Shepard, M. D.,	*Professor of Chemistry.*
Henry R. Frost, M. D.,	*Professor of Materia Medica.*
E. Geddings, M. D.,	*Professor of Pathological Anatomy and Medical Jurisprudence.*
F. Wurdemann, M. D.,	*Demonstrator of Anatomy.*

SAMUEL HENRY DICKSON, M. D.,
Dean of the Faculty.

UNIVERSITY OF PENNSYLVANIA.

At a Public Commencement, held April 5th, 1839, in the Musical Fund Hall, Locust Street, the Degree of Doctor of Medicine was conferred by the Rev. Provost, JOHN LUDLOW, D. D., upon the following gentlemen: after which an Address was delivered by N. CHAPMAN, M. D., Professor of the Practice of Medicine.

NAMES.	RESIDENCE.	SUBJECT OF ESSAY.
Adams, Seth S.	Florida,	Circulation.
Alden, James M.	New York,	Strictures of the Rectum.
Alston, James W.	North Carolina,	Remittent Fever.
Baker, Charles S.	Pennsylvania,	Dyspepsia.
Bardwell, Brainard	Mississippi,	Rubeola.
Bascome, Daniel B.	Turk's Island,	Peritonitis.
Bayles, Geo. W.	Kentucky,	Reciprocal influence of the mental and organic man.
Beasley, James A.	Virginia,	Gastritis.
Bellamy, John D.	North Carolina,	Hysteria.
Bieber, William S.	Pennsylvania,	Leucorrhœa.
Blunt, Angus F.	Virginia,	Bilious Colic.
Boisseau, James P.	Virginia,	Acute Dysentery.
Bourgeat, Joseph B.	Louisiana,	Fever.
Bradford, Charles M.	New York,	Yellow Fever.
Brooks, William D. F.	New Jersey,	Dysmenorrhœa.
Broughton, Charles H.	Virginia,	Neuralgia.
Burns, Robert	Pennsylvania,	Physiology and Pathology of the Stomach.
Carson, James G.	Mississippi,	Hepatitis.
Chambers, George W.	Pennsylvania,	Cholera Infantum.
Cheshire, John S.	Kentucky,	Animal Heat.
Christian, William W.	Virginia,	Chimaphila Maculata.
Cochran, William A.	Alabama,	Syphilis.
Cock, Thomas F.	New York,	Pneumonia.
Collins, J. Milton	New York,	Insanity.
Constable, Thomas F.	Virginia,	Amenorrhœa.
Cooper, Richard M. Jun.	New Jersey,	Colitis.
Crichton, James E.	Virginia,	Hydrophobia.
Criddle, Edward F.	Virginia,	Measles.
Cross, William	Virginia,	Spinal Irritation.
Daniels, Ezekiel	Pennsylvania,	Injurious influence of tight dress.
Dibrell, James A.	Tennessee,	Pneumonia.
Donoho, Richard A.	North Carolina,	Amaurosis.
Dortch, Lewis J.	North Carolina,	Arthritis.
Dove, George M.	District of Columbia,	Scarlatina.
Dove, James	Virginia,	Dyspepsia.
Downey, John A.	North Carolina,	Quinia.
Eaton, Samuel W.	North Carolina,	Creosote.
Embree, George W.	New York,	Revulsion.
English, Th. Dunn	Pennsylvania,	Phrenology.
Eppes, Peter	Virginia,	Erysipelas.
Evatt, William H.	Canada,	Pleuritis.
Fountleroy, S. Griffin	Virginia,	Dysentery.
Fell, Jonathan	Pennsylvania,	Pericarditis.
Fox, Daniel J.	South Carolina,	Dysentery.
Frayser, Benjamin F.	Virginia,	Diseases of Dentition.
Garland, W. P.	Virginia,	Hepatitis.
Gilmer, Francis W.	Virginia,	Arthritis.
Given, Robert A.	Ireland,	Fractures.
Graves, Nathaniel S.	North Carolina,	Gastritis Acuta.
Griffin, Charles M.	Georgia,	Hydrophobia.
Griffin, James L. C.	Virginia,	Diseases of the Osseous System.
Haines, William S.	Delaware,	Colica Pictonum.
Hamilton, James S.	Georgia,	Puerperal Convulsions.

NAMES.	RESIDENCE.	SUBJECT OF ESSAY.
Hartman, William D.	Pennsylvania,	Menstruation.
Haskins, Richard E.	Virginia,	Pestis Orientalis.
Hawkins, Peter B.	North Carolina,	Gastritis.
Heaton, James D.	Virginia,	Trachitis.
Henry, Samuel H.	Maryland,	Club-foot.
Hill, William A.	Virginia,	Medicina.
Holden, Levi H.	Rhode Island,	Blood-letting.
Hudson, Edward	Pennsylvania,	Infantile Dentition.
Hughes, John S.	Virginia,	Scarlatina.
Hunter, Alexander	Georgia,	Evidences of general poisoning.
Hussey, Elijah M.	Alabama,	Position and Countenance.
Irwin, William F.	Pennsylvania.	Dropsy.
Johnson, John G.	Georgia,	The means of lessening the pains of Parturition.
Jones, Alexander	Maryland,	Resuscitation.
Jones, Randolph M.	Maryland,	Passions.
Kerr, James W.	Pennsylvania,	Cerebral symptoms connected with diseases of the alimentary canal.
Klapp, Joseph Jun.	Pennsylvania,	Fungus of the Testicles.
Larimore, James S.	Ohio,	On the color of the Skin.
Laurie, Shepherd	District of Columbia,	Medicine an elevated Science.
Lawrence, Thomas C.	Mississippi,	Yellow Fever.
Lea, James M.	North Carolina,	Dysentery.
Long, Crawford W.	Georgia,	Functional Amaurosis.
Lyle, William J.	Virginia,	Epilepsy.
Mackenzie, James S.	Maryland,	Croup.
Marthens, Henry C.	Pennsylvania,	Empyema.
Marr, John H.	Alabama,	Acute Gastritis.
Massenburg, William A.	Virginia,	Syphilis.
Mason, Robert H.	Virginia,	Acute Gastritis.
Maynard, Joseph P.	Barbadoes,	Nervous Asthenia.
McKee, Alexander R.	Kentucky,	Puerperal Peritonitis.
McKee, William H.	North Carolina,	Puerperal Madness.
Mershon, Sumpter	Mississippi,	Congestive Fever.
Millan, Lyle	Virginia,	Remittent Fever.
Middleton, Benjamin S.	Virginia,	Blood-letting.
Mitchell, Bruce H.	Alabama,	Auscultation of the Heart.
Mitchell, Moses T.	Pennsylvania,	Acute Dysentery.
Moore, James J.	North Carolina,	Intermittent Fever.
Moore, Edward W.	Louisiana,	Mercury.
Mosely, Thomas H.	Georgia,	The Mind as the result of Physical Organization.
Nelson, William A.	Virginia,	Urinary Calculi.
Norcom, Caspar W.	North Carolina,	Phrenitis.
Oliver, James L.	North Carolina,	Proto-chloride of Mercury.
Page, William B.	Virginia,	Scarlatina.
Paschall, Zebulon M.	North Carolina,	Opium.
Patterson, George W.	Philadelphia,	Iodine.
Peacock, Howell	Georgia,	Remittent Fever.
Pegram, William E.	Virginia,	Angina Pectoris.
Pittman, Newsom J.	North Carolina,	Bronchitis.
Pleasants, William B.	Virginia,	Scrofula.
Pope, Charles A.	Alabama,	Pathology of the Arteries.
Reese, John J.	Philadelphia,	Acute Dysentery.
Reynolds, Marcus	South Carolina,	Phrenitis.
Richardson, John D.	Pennsylvania,	Varioloid.
Ridgely, Henry	Delaware,	Lithotripsy.
Ridley, William M. S.	North Carolina,	Calandra Granaria.
Rives, Henry W.	Rhode Island,	Erysipelas.
Rives, William H.	Virginia,	Qualifications of a Surgeon.
Robards, Henry J.	North Carolina,	Pneumonia.

NAMES.	RESIDENCE.	SUBJECT OF ESSAY.
Roberts, William R.	Virginia,	Pleurisy.
Robeson, Andrew Jun.	Massachusetts,	Intermittent Fever.
Sappington, Thomas	Maryland,	Chronic Hepatitis.
Scott, Thomas F.	Virginia,	Amenorrhœa.
Shackelford, John	North Carolina,	Ramollissement.
Sims, Richard S.	Virginia,	Rubeola.
Smallwood, Thomas J. P.	North Carolina,	Acute Gastritis.
Smith, Edward G.	Philadelphia,	Traumatic Tetanus.
Spalding, Joshua A.	Maine,	Cholera.
Speece, J. Morton	Virginia,	Phrenitis.
Spence, William A. Jun.	Virginia,	Secale Cornutum.
Stamps, William L.	Virginia,	Arachnitis.
Stokes, Thomas D.	North Carolina,	Delirium Tremens.
Stone, James B.	Virginia,	Ventriculus Stomachus.
Swanson, William G.	Georgia,	Puerperal Peritonitis.
Swartz, Benj. Franklin	Pennsylvania,	Hæmoptysis.
Talley, Horace A.	Virginia,	Dysentery.
Taylor, James Theus	Alabama,	Eupatorium Perfoliatum.
Taylor, John E.	Philadelphia,	Cholera Infantum.
Taylor, Lyttleton L.	Florida,	Puerperal Peritonitis.
Taylor, James McDowell	Virginia,	Pathology of Cellular Tissue.
Tuggle, Richard B.	Virginia,	Menstruation.
Tull, John G.	North Carolina,	Amenorrhœa.
Trevor, M. Randall	Pennsylvania,	Menstruation.
Vedder, Alexander M.	New York,	History of the Epidemic Rubeola, and as it prevailed at the Children's Asylum of Philadelphia, in the summer of 1838.
Vinson, Daniel S.	Louisiana,	Causes of Inflammation.
Walker, John	Virginia,	Tracheitis.
Watkins, Clement C.	Virginia,	Intermittent Fever.
Wendel, James E.	Tennessee,	Blood-letting as a Therapeutic Agent.
Whaland, Thomas H.	Maryland,	Phthisis Pulmonalis.
Williams, Robert D.	North Carolina,	Tetanus.
Wilkinson, Joseph B.	Louisiana,	Anatomy of and operation for Inguinal Hernia.
Wood, John P.	Virginia,	Asthma.
Wood, Thomas	Ohio,	Hydrated Peroxide of Iron.
Yohe, Andrew	Pennsylvania,	Aneurism.

At the Collegiate Commencement, held July 13th, 1838, the following gentlemen also received the Degree of Doctor of Medicine.

George F. Boisseau,	Virginia,	Acute Gastritis.
Charles R. Dodson,	North Carolina,	Acute Peritonitis.
Augustus C. Evans,	North Carolina,	Acute Dysentery.
Charles Foulke,	Pennsylvania,	Belladonna in Pertussis.
Thomas Glaskin,	Virginia,	Vis Med. Naturæ.
Amos W. Griffiths,	Pennsylvania,	Intermittent Fever.
John Hiner,	Maryland,	Acute Hepatitis.
Robert M. McClure,	Indiana,	Intermittent Fever.
Charles J. Pleasants,	Virginia,	Rubeola.
Thomas Mawney Potter,	Rhode Island,	Rubeola.
John Howard Smith,	Pennsylvania,	Ligature of the Aorta.
John A. Smith,	Tennessee,	Menstruation,

Total, 138.

W. E. HORNER, M. D.
Dean of the Medical Faculty.

TO THE MEDICAL FACULTY.

THE subscriber having for many years prepared several valuable extracts, which have received the approbation, and been extensively used by the most eminent physicians in various parts of the United States, deems it his duty to caution the public against an attempt now making to impose on them an article prepared by a certain John Hughes, who alleges that he for several years prepared the articles while in the employ of the subscriber. The assertion is utterly untrue, as the said Hughes was employed merely as a porter and labourer about the store. The bottles, directions, and wrappers are imitations of those used by the subscriber, and impudently pretends that the signature of John Hughes is as true a test of the genuineness of the preparation as his own. Frequent attempts have been made by others to imitate articles prepared by the subscriber, which he has invariably treated with contempt; but the present one is so shameless that he deems it his duty to those who have used and relied on the excellence of his preparations to expose the imposture; and he further apprises them that it is his intention to institute legal proceedings against all concerned in the measure.

GEO. W. CARPENTER, 301 Market St. Philadelphia.

GEO. W. CARPENTER'S

Precipitated Extract of Bark, fully equal to the Sulphate of Quinine in the same Doses,

At One Dollar Per Ounce.

In the November Number for 1838 of this Journal, at page 267, I gave a detailed description of the above Extract. Since then I have received a number of letters from distinguished physicians in various parts of the United States. I have selected a couple from the number received, a copy of which I beg leave to annex.

Extract of a Letter from Dr. A. W. Washburn of Manchester, Mississippi.

Manchester, Miss. January 21, 1839.

DEAR SIR:—I am sorry to find that so valuable an article as the Sulphate of Quinine has become so scarce, but am satisfied that your precipitated Extract of Bark will supply the desideratum occasioned by its deficiency. I confess I should not like to do without Quinine altogether, as there are some cases of disease attended with such extreme irritability of the stomach as to make it from the minuteness of the dose, more eligible than any other tonic of the same class.

I have used your Precipitated Extract of Bark, and found it equal if not superior to the Sulphate of Quinine in intermittents. Indeed I can say of this Extract of Bark, what I cannot of Quinine, viz: that I have never failed with it to effect a cure of intermittent fever where it was eligible. I remain, with respect, yours,

To MR. GEO. W. CARPENTER. A. W. WASHBURN.

Extract of a Letter from Dr. Alexr. H. Innes.

Claysville, Kentucky, February 20, 1839.

DEAR SIR:—I avail myself of this opportunity of communicating to you the effect of your Precipitated Extract of Bark in the treatment of intermittent fever. I used eight ounces of it in my practice last fall, and found it the most efficient article in the treatment of intermittent fever (Quinine not excepted) that I have ever been able to procure, nineteen-twentieths of the cases yielded to it in twenty-four hours, and not a solitary case resisted the use of it for forty-eight hours. It was not attended with one of the unpleasant symptoms attendant on Quinine in large doses.

My mode of using it was as follows: after cleansing the stomach and evacuating the bowels to begin six hours before the next paroxysm was anticipated, and give a six grain pill every two hours until the time had passed for the paroxysm.

For children I prepared the use of the Extract in brandy or proof spirits, in reduced quantities, say four grains dissolved in four teaspoonfuls of brandy, and one teaspoonful every two hours, as with the pills in adults. Respectfully yours,

To MR. GEO. W. CARPENTER. ALEXR. H. INNES.

Extract of a Letter from Dr. R. Genley.

Saline, Washtenaw Co. Michigan.

DEAR SIR:—The Precipitated Extract of Bark which I had of you direct was always good, and answered the same purpose to me as the Quinine. The last which I bought however was in New York, through the agency of a friend, who purchased it of a druggist there, and it was a spurious article and worthless; an ordinary dose of it would nauseate the stomach without any other sensible effect. Please send me fifty ounces of your Extract to care of Silas Cook & Son, New York. I think I can introduce it into extensive use here, and if I can, shall be happy to do so for your benefit, and for the benefit of the sick. You would be surprised at the amount of Quinine required here. To do justice to Michigan diseases, in a practice of three thousand dollars per annum, thirty or forty bottles are as little as can be used; fifty or sixty might be to advantage. Your Precipitated Extract will be a great advantage to us. Yours truly,

To MR. GEO. W. CARPENTER. ROYAL GENLEY.

MEDICINE CHESTS.

Medicine Chests should be made of different sizes, and the contents so proportioned as to suit the sizes of families and the number of domestics. Another consideration should be kept in view; whether residing in the city where a chest can, in a short time be replenished, or whether in the country where such facility does not exist, and where of course a larger chest would be required, and the quantity as well as the number of articles should necessarily be increased.

In order to have chests adapted to all the various conditions of life, I have put up five sizes of chests of particular description and construction, and denominated them Carpenters' Medicine Chests, varying in numbers from 1 to 5, so as to distinguish them and properly to characterize them according to the numbers—thus: No. 1 is adapted for a family residing in the city. No. 2 for a large family in the city or a small family in the country. No. 3 for a large family at a considerable distance in the country, or for a plantation where a large number of domestics are employed. No. 4 for a practising physician, containing a full assortment of medicines, &c. No. 5, for sea, suitable for large vessels and packet ships. These chests will be all filled with fresh and choice medicines, in ground stoppered heavy flint glass bottles, of various sizes, neatly labelled in gold, and which will be put at a very moderate price. The following are descriptions of each chest.

Carpenter's Medicine Chest, No. 1:

Adapted for a family residing in the city.

This is a neat Mahogany case, finely finished with brass mountings, lock and key, handles, &c., and forms a neat and appropriate piece of parlor furniture. On opening the lid the following bottles are displayed:—

4, Four ounce salt mouth bottles; 5, two ounce Tincture bottles; 4, one ounce salt mouth bottles; 8, one ounce Tincture bottles, under which is a drawer which contains the following articles: 4, two ounce Fancy Porcelain Jars.

Also in which are neat separate divisions made for, and containing the following articles:—1 Pair of Scales and Weights; Graduated Glass measure; Small Spatula; Small Glass mortar and pestle; Small Glass Cup to take doses of medicine from; Carpenter's Medicine Chest Dispensatory, containing a full description of all the Medicines and a concise description of the treatment of the diseases.

This chest will cost from $20 to $30, according to the finish, and the variation of the cost between bottles labelled in gold or in the ordinary manner, and whether also of cut glass or plain.

Carpenter's Medicine Chest, No. 2:

Adapted for a large family in the city or a small family in the country.

This is also a neat Mahogany Chest, handsomely finished, with brass mountings, lock and key, handles, &c. On opening the lid the following articles are displayed:—

5, Four ounce salt mouth bottles; 7, two ounce salt mouth bottles; 5, four ounce Tincture bottles; 7, two ounce Tincture bottles; 8, one ounce salt mouth bottles; under which is a drawer containing the following articles: 4, four ounce Covered Porcelain Jars; 4 Tin Canisters, with lids.

Also, neat and appropriate divisions, containing 1 pair of Scales and Weights; Graduated Glass Measure; Small Glass Mortar and Pestle; Spatula; Small Glass Measure Cup; 1 Copy Carpenter's Medicine Chest Dispensatory.

This chest will cost from $30 to $35.

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Carpenter's Medicine Chest, No. 3:

For a large family residing at a considerable distance in the country or for a plantation where a large number of domestics are employed.

This being a larger chest, is generally made of pine, poplar, or cherry, neatly stained and varnished, or can be made of mahogany, if desired, at a few dollars more expense. On opening the lid the following bottles are displayed:—

6, Eight ounce Tincture bottles; 7, four ounce Tincture bottles; 10 two ounce Tincture bottles; 6, eight ounce salt mouth bottles; 7, four ounce salt mouth bottles; under which is a drawer containing the following articles; 4, half ounce salt mouth bottles; 6, four ounce canopy Porcelain Jars; 6, Tin Canisters.

Neat and appropriate divisions, containing Scales and Weights; Spatula; Graduated Glass Measure; Glass Mortar and Pestle; Glass Cup; Carpenter's Medicine Chest Dispensatory.

This chest will cost from $35 to $40.

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Carpenter's Medicine Chest, No. 4:

Adapted for a practising Physician in the country.

This being a large chest, is generally made of pine, poplar, or cherry, neatly stained and varnished, or can be made of mohogany, if desired, at a few dollars additional expense.

This chest contains a neat and general assortment of medicines for a Practising Physician, and will be found a highly useful article.

On opening the lid, the following articles are displayed at one glance:—

7, Twelve ounce Tincture bottles, containing Ol. Ricini, Sp. Æth. Nit., Syr. Scillæ., Sp Camphoræ, Mel. Scillæ Com., Tinct. Cinchon. Com., Syr. Rhei ar.

8, Eight ounce Tincture bottles, containing Ess. Menth. Pip., Tr. Opii, Tr. Opii Cam., Vin. Antimon., Sp. Cornu. Cervi, Sol. Quinæ., Sp. Lavend. Com., Æther Sulph.

9, Four ounce Tincture bottles, containing Bals. Copavia, Sp Æther. Sul. Com., Tr. Benzoin Com., Tr. Guaiac, Tr. Assafœtid., Tr. Myrrhæ, Tr. Sapon. Com., Tr. Gentian. Com., Aqua Plumbi

12, Two ounce Tincture bottles, containing, Tinct. Digitalis, Acet. Opii, Sp. Ammon. Ar., Vin. Rad. Colchic., Tr. Opii. Narcot. Depr., Acid. S. Arom., Tr. Meloe Vesic., Tr. Kino, Tr. Cubebæ, Tr. Iodin., Tr. Rhei, Tr. Valerianæ.

14, One ounce Tincture bottles, containing Ol. Anisi, Ol. Carui, Ol. Cinnamom., Ol. Caryophil., Ol. Copaiva., Ol. Cubebæ, Ol. Juniper, Ol. Lavindul. Ol. Limonis, Ol. Menth. Pip., Ol. Sassafras, Ol. Santonic., Ol. Terebinth., Ol. Sabinæ.

14, One ounce salt mouth bottles, containing, Iodine, Potass. Hydriod., Hydrar. Chlor., Opii Pulv., Pulv. Antimonialis, Fol. Digitalis Pulv., Pulv. Nit. Potas., Caryophil. Pulv., Zinci Sulph., Cupri Sulph., Pulv. Gallar., Argent. Nitrat., Ferri Sulph., Secale Cornut.

15, Quarter ounce salt mouth bottles, containing Acet. Morphiæ, Sulph. Morphiæ, Piperine, Strychnine, Acid. Prussic, Veratrine, Kreosote, Ol. Croton., Elatine, Proto-Iodur. Mercury, Deuto do., Iodide of Lead, Lupuline; Ol. Cantharid., Ol. pip. Nig.

7, Twelve ounce salt mouth bottles, containing Magnes. Usta, Pulv. Cinchon. Potas. Bitart., Sulph. Subl., Pulv. Jalapæ, Pulv. Rhei., P. Sal. Rochel.

8, Eight ounce salt mouth bottles, containing Pulv. Aloes, Ipecac. pulv., Sodæ Bicarb., Acid Tartaric., Creta. ppt., Ammon. Carb., Potas. Carb., Pulv. Zinjib.

9, Four ounce salt mouth bottles, containing Acaciæ, pulv., Sodæ Subbor., Hyd. Sub. Mur., Quinæ Sulph., Colocynth pulv., Camphora, Scillæ, pulv., Spigeliæ, pulv., Serpentariæ pulv.

Extract of a Letter from Dr. R. Genley.

Saline, Washtenaw Co. Michigan.

DEAR SIR:—The Precipitated Extract of Bark which I had of you direct was always good, and answered the same purpose to me as the Quinine. The last which I bought however was in New York, through the agency of a friend, who purchased it of a druggist there, and it was a spurious article and worthless; an ordinary dose of it would nauseate the stomach without any other sensible effect. Please send me fifty ounces of your Extract to care of Silas Cook & Son, New York. I think I can introduce it into extensive use here, and if I can, shall be happy to do so for your benefit, and for the benefit of the sick. You would be surprised at the amount of Quinine required here. To do justice to Michigan diseases, in a practice of three thousand dollars per annum, thirty or forty bottles are as little as can be used; fifty or sixty might be to advantage. Your Precipitated Extract will be a great advantage to us. Yours truly,

To MR. GEO. W. CARPENTER. ROYAL GENLEY.

MEDICINE CHESTS.

Medicine Chests should be made of different sizes, and the contents so proportioned as to suit the sizes of families and the number of domestics. Another consideration should be kept in view; whether residing in the city where a chest can, in a short time be replenished, or whether in the country where such facility does not exist, and where of course a larger chest would be required, and the quantity as well as the number of articles should necessarily be increased.

In order to have chests adapted to all the various conditions of life, I have put up five sizes of chests of particular description and construction, and denominated them Carpenters' Medicine Chests, varying in numbers from 1 to 5, so as to distinguish them and properly to characterize them according to the numbers—thus: No. 1 is adapted for a family residing in the city. No. 2 for a large family in the city or a small family in the country. No. 3 for a large family at a considerable distance in the country, or for a plantation where a large number of domestics are employed. No. 4 for a practising physician, containing a full assortment of medicines, &c. No. 5, for sea, suitable for large vessels and packet ships. These chests will be all filled with fresh and choice medicines, in ground stoppered heavy flint glass bottles, of various sizes, neatly labelled in gold, and which will be put at a very moderate price. The following are descriptions of each chest.

Carpenter's Medicine Chest, No. 1:

Adapted for a family residing in the city.

This is a neat Mahogany case, finely finished with brass mountings, lock and key, handles, &c., and forms a neat and appropriate piece of parlor furniture. On opening the lid the following bottles are displayed:—

4, Four ounce salt mouth bottles; 5, two ounce Tincture bottles; 4, one ounce salt mouth bottles; 8, one ounce Tincture bottles, under which is a drawer which contains the following articles: 4, two ounce Fancy Porcelain Jars.

Also in which are neat separate divisions made for, and containing the following articles:—1 Pair of Scales and Weights; Graduated Glass measure; Small Spatula; Small Glass mortar and pestle; Small Glass Cup to take doses of medicine from; Carpenter's Medicine Chest Dispensatory, containing a full description of all the Medicines. and a concise description of the treatment of the diseases.

This chest will cost from $20 to $30, according to the finish, and the variation of the cost between bottles labelled in gold or in the ordinary manner, and whether also of cut glass or plain.

Carpenter's Medicine Chest, No. 2:

Adapted for a large family in the city or a small family in the country.

This is also a neat Mahogany Chest, handsomely finished, with brass mountings, lock and key, handles, &c. On opening the lid the following articles are displayed:—

5, Four ounce salt mouth bottles; 7, two ounce salt mouth bottles; 5, four ounce Tincture bottles; 7, two ounce Tincture bottles; 8, one ounce salt mouth bottles; under which is a drawer containing the following articles: 4, four ounce Covered Porcelain Jars; 4 Tin Canisters, with lids.

Also, neat and appropriate divisions, containing 1 pair of Scales and Weights; Graduated Glass Measure; Small Glass Mortar and Pestle; Spatula; Small Glass Measure Cup; 1 Copy Carpenter's Medicine Chest Dispensatory.

This chest will cost from $30 to $35.

—

Carpenter's Medicine Chest, No. 3:

For a large family residing at a considerable distance in the country or for a plantation where a large number of domestics are employed.

This being a larger chest, is generally made of pine, poplar, or cherry, neatly stained and varnished, or can be made of mahogany, if desired, at a few dollars more expense. On opening the lid the following bottles are displayed:—

6, Eight ounce Tincture bottles; 7, four ounce Tincture bottles; 10 two ounce Tincture bottles; 6, eight ounce salt mouth bottles; 7, four ounce salt mouth bottles; under which is a drawer containing the following articles; 4, half ounce salt mouth bottles; 6, four ounce canopy Porcelain Jars; 6, Tin Canisters.

Neat and appropriate divisions, containing Scales and Weights; Spatula; Graduated Glass Measure; Glass Mortar and Pestle; Glass Cup; Carpenter's Medicine Chest Dispensatory.

This chest will cost from $35 to $40.

—

Carpenter's Medicine Chest, No. 4:

Adapted for a practising Physician in the country.

This being a large chest, is generally made of pine, poplar, or cherry, neatly stained and varnished, or can be made of mohogany, if desired, at a few dollars additional expense.

This chest contains a neat and general assortment of medicines for a Practising Physician, and will be found a highly useful article.

On opening the lid, the following articles are displayed at one glance:—

7, Twelve ounce Tincture bottles, containing Ol. Ricini, Sp. Æth. Nit., Syr. Scillæ., Sp Camphoræ, Mel. Scillæ Com., Tinct. Cinchon. Com., Syr. Rhei ar.

8, Eight ounce Tincture bottles, containing Ess. Menth. Pip., Tr. Opii, Tr. Opii Cam., Vin. Antimon., Sp. Cornu. Cervi, Sol. Quinæ., Sp. Lavend. Com., Æther Sulph.

9, Four ounce Tincture bottles, containing Bals. Copavia, Sp Æther. Sul. Com., Tr. Benzoin Com., Tr. Guaiac, Tr. Assafœtid., Tr. Myrrhæ, Tr. Sapon. Com., Tr. Gentian. Com., Aqua Plumbi

12, Two ounce Tincture bottles, containing, Tinct. Digitalis, Acet. Opii, Sp. Ammon. Ar., Vin. Rad. Colchic., Tr. Opii. Narcot. Depr., Acid. S. Arom., Tr. Meloe Vesic., Tr. Kino, Tr. Cubebæ, Tr. Iodin., Tr. Rhei, Tr. Valerianæ.

14, One ounce Tincture bottles, containing Ol. Anisi, Ol. Carui, Ol. Cinnamom., Ol. Caryophil., Ol. Copaiva., Ol. Cubebæ, Ol. Juniper, Ol. Lavindul. Ol. Limonis, Ol. Menth. Pip., Ol. Sassafras, Ol. Santonic., Ol. Terebinth., Ol. Sabinæ.

14, One ounce salt mouth bottles, containing, Iodine, Potass. Hydriod., Hydrar. Chlor., Opii Pulv., Pulv. Antimonialis, Fol. Digitalis Pulv., Pulv. Nit. Potas., Caryophil. Pulv., Zinci Sulph., Cupri Sulph., Pulv. Gallar., Argent. Nitrat., Ferri Sulph., Secale Cornut.

15, Quarter ounce salt mouth bottles, containing Acet. Morphiæ, Sulph. Morphiæ, Piperine, Strychnine, Acid. Prussic, Veratrine, Kreosote, Ol. Croton., Elatine, Proto-Iodur. Mercury, Deuto do., Iodide of Lead, Lupuline; Ol. Cantharid., Ol. pip. Nig.

7, Twelve ounce salt mouth bottles, containing Magnes. Usta, Pulv. Cinchon. Potas. Bitart., Sulph. Subl., Pulv. Jalapæ, Pulv. Rhei., P. Sal. Rochel.

8, Eight ounce salt mouth bottles, containing Pulv. Aloes, Ipecac. pulv., Sodæ Bicarb., Acid Tartaric., Creta. ppt., Ammon. Carb., Potas. Carb., Pulv. Zinjib.

9, Four ounce salt mouth bottles, containing Acaciæ, pulv., Sodæ Subbor., Hyd. Sub. Mur., Quinæ Sulph., Colocynth pulv., Camphora, Scillæ, pulv., Spigeliæ, pulv., Serpentariæ pulv.

Under which is a drawer containing the following:—

6, Eight ounce canopy top jars, containing Unguent. Hydrarg., Unguent. Res. Flav., Cerat. Simp., Ung. Cantharides, Mass. Hydrarg., Ung. Hyd. Nit.

6, Tin canisters, containing Fol. Sennæ, Manna, Magnesiæ Sulph., Linteum, Emplast. Adhes. Acaciæ Gum.

Also, neat and appropriate divisions, containing Scales and Weights, Spatulas—2 sizes; Glass Mortar and pestle; Wedgwood mortar and pestle; Graduated Glass Measure; Carpenter's Medicine Chest Dispensatory.

The above chest will cost from 90 to 100 dollars.

Chest No. 4, intended for Physicians is also made of a very small size suitable for carrying out in a gig or sulky; the most prominent and important articles are put up in small quantities, sufficient for each day's practice. The bottles are neatly put up and handsomely labelled, price 15 to 20 dollars, according to finish.

—

Carpenter's Medicine Chest, No. 5:

For Sea Voyage.

The above chest is intended for a ship; the size can be proportioned and varied to suit the vessel, length of voyage, &c.

This being a large chest, is generally made of pine, poplar or cherry, neatly stained and varnished, with lock and key, brass handles, &c.; it can also be made of mahogany if desired, at a few dollars more expense.

On opening the lid, the following articles are displayed, viz:—

7, Twelve ounce Tincture bottles; 8, Eight ounce Tincture bottles; 8, Eight ounce salt mouth bottles; 6, Four ounce salt mouth bottles; 6, Pint ointment Jars; 4, Two ounce salt mouths.

Under which is a drawer containing 10, Tin canisters.

Sundry articles—2 Lancets; 1 pint Syringe; 2 Bougies; 2 Catheters; Scales and Weights; Composition Mortar and Pestle; Glass Mortar and Pestle; Graduated Measure; Penis Syringes, 3; Spatulas—2 sizes; Carpenter's Medicine Chest Dispensatory.

The prices affixed to the different chests above described include medicines. The bottles and jars in each will be filled with fresh medicines of the best quality.

GEO. W. CARPENTER,
301 *Market Street, Philada.*

MEDICAL CONVENTION.

In obedience to a resolution of the Medical Convention of the United States, assembled in Washington City in January, 1830, public notice is hereby given, that a similar Convention will meet at the National Hotel, in the said city, on the first Wednesday of January, 1840, for the purpose of revising the Pharmacopœia of the United States.

Each incorporated State Medical Society, incorporated Medical College, and incorporated College of Physicians and Surgeons, is requested to elect a number of delegates, not exceeding three, to attend the said Convention. The several incorporated bodies mentioned are also requested to submit the Pharmacopœia to a careful revision, and to transmit the result of their labours, through their delegates, or through any other channel, to the next Convention. They are further requested to transmit to the undersigned the names and residence of their respective delegates, so soon as they shall be appointed, so that a list of them may be published, for the information of the Medical public, in the month of October next.

By order of the Medical Convention, assembled at Washington, in January, 1830.

LEWIS CONDICT, M. D., *President.*

Morristown, New Jersey, April 6, 1839.

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tion of references, and has thereby not only added very considerably to the value of his work, but has shown an extent of reading which, we confess, we were not prepared by his former edition to expect. He has also availed himself of the additional materials supplied by the works that have been published in the interval, especially those of Müller and Burdach. So that as a collection of details on human physiology alone, we do not think that it is surpassed by any work in our language: and we can recommend it to students in this country (England) as containing much with which they will not be likely to meet elsewhere."—*British and Foreign Medical Review*, for Jan. 1838.

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